

MARINE REVIEW.

VOL. V.

CLEVELAND, OHIO, THURSDAY, JANUARY 7, 1892.

No. 2.

Prominent Men of the Lakes.

Buffalo has always been the headquarters of marine insurance companies operating on the great lakes, and for the last quarter of a century the general agency firm of that city, which has been known as Smith & Davis, Smith, Davis & Clark, and since 1885 as Smith, Davis & Co., successively, is admittedly the leading office. During this time, when the various lake companies have pooled their business, this firm's office has acted as a clearing house for the entire lake insurance interests. Townsend Davis, one of the original founders of the firm, and who has been for ten years the senior member and active director of this firm's affairs, which have during that period attained a magnitude never before reached by any other insurance house on the great lakes, is the subject of this sketch.

If one were asked what were the distinguishing traits of this successful man's character, the reply would truthfully be his per-

Lake Freight Outlook.

Complete returns, official, from all upper lake ports make the total iron ore shipments by lake 6,443,896 gross tons. This is 46,309 tons less than the aggregate reported a short time ago when figures from Marquette were not available. Although there is nothing in the present outlook to indicate, with any degree of certainty, what freight rates on ore will be next season, there is a great deal in the situation to interest vessel owners. A great effort is being made to brace up the pig iron market on a small advance already obtained. Until this is done,—it is the general opinion that the market will go up—nothing may be expected in the way of sales of ore for next season's delivery, and consequently no dealings in the lake freight market. According to present indications ore producers will hold out until spring in their efforts to secure an improvement on last year's prices, which the pig iron market does not warrant as yet. Vessel owners who con-



TOWNSEND DAVIS.

fect fair mindedness and courtesy to all, and the tact and skill, with which the large and sometimes conflicting interests intrusted to his care are managed. Mr. Davis abhors dwelling upon the technicalities that in this complicated branch of insurance are sometimes resorted to in order to befog claimants, and has a way of overleaping logical preliminaries, brushing away fine legal distinctions and arriving directly at a common sense and perfectly equitable settlement of claims submitted to him. That this characteristic liberality towards patrons of his house is not inconsistent with a jealous watchfulness for the interests directly confided to his care is shown by the continuous record of handsome profits realized by his general agency in this precarious branch of marine insurance, during a long period of years, for the insurance companies represented, among which may be mentioned the Western Assurance Company of Toronto, the British & Foreign Marine Insurance Company of Liverpool, England, Standard Marine Insurance Company of the same place, and the Security Insurance Company, of New Haven, Conn., whose entire lake interests are managed by the firm, of which Mr. Davis is the head.

tract to carry large blocks of ore each season are of the opinion that contract rates of 1890, which were based on \$1.35 from Ashland, should prevail, but the strength of this view will not be known until such time as the ore sales agents bid for tonnage in an actual market or seek options on which to make sales. Most of the ore dealers think that when this time comes they will find contract tonnage at about \$1.25 from the head of Lake Superior. The amount of unsold ore, although several times more than 60,000 tons, the figure given out some time ago, will be of no particular importance. Vessel owners as well as shippers who base their estimates of freight rates for 1892 on the business of 1890, would do well to bear in mind two important and opposite factors—the increase in tonnage available in the ore trade and the decrease in draft of water at St. Mary's Falls canal. Vessels now on the stocks together with those launched last year number ninety-three and their aggregate capacity in gross tons is 153,950. At an average of twenty trips for the season these boats will carry 3,079,000 tons. On the other hand Gen. Poe proves conclusively that the reduced draft of water in the Sault canal last season made a difference in Lake Superior traffic alone of 1,500,000, and the commerce of other connecting channels was affected proportionately.

MARINE REVIEW.

Convict Labor and Canal Construction.

Mr. Jesse H. Farwell, a member of the Detroit firm of Farwell & Adams, is one of the contractors who built the canal lock now in use at Sault Ste. Marie. Among a number of papers that will appear in the report of the Detroit deep waterways convention, is one by Mr. Farwell, in which he advocates the employment of convict labor in the construction of a ship canal between the lakes and the Atlantic seaboard. Mr. Farwell says among other things:

"Such a policy would do much towards neutralizing a sickly sentimentalism, which has grown up in many sections during the last quarter of a century, in reference to treatment of the criminal classes. It would be the best possible deterrent of crime, and would remove for the time being tens of thousands of criminals from competition with honest labor. Such a work would do more towards restoring our ocean marine than all the steamship subsidies that the most pliant administration would ever grant. The construction of a work of this character, even if carried in a straight line from Lake Erie to salt water, would be less of an undertaking in this age, than the construction of the Erie canal was in its time. The employment of the convict labor of the several states would, of course, require the co-operation of the states with the general government. To this end the governors of several states have already signified their willingness to co-operate in any movement which may be deemed feasible, and thus rid their several states of a troublesome question in respect to convict labor. To the natural inquiries as to how so large a body of men of a desperate class could be controlled on such a work, I would say put them under guard of United States troops and thus afford practical exercise for the army. The control of so large a body of criminals would be no boy's play, but the limit, or load line so to speak, being once established they would soon respect it. Another claim is that of opposition from politicians and demagogues who would fear objection from trades unions, but I may say in this regard that the plan has already received the hearty and unqualified endorsement of R. F. Trevellick, who has done work second to none in this country towards the organization and intelligent control of the labor-unions of this age."

Commerce of Several Lake Ports.

Collectors of customs in different districts around the lakes prepare at the close of the year statements of arrivals and departures of vessels, tonnage owned, tonnage built, etc. These statements are in most respects a duplication of the figures sent to the commissioner of navigation at the close of the government fiscal year, June 30, and they are not altogether accurate as regards amounts of different commodities handled by lake, on account of defects in the laws governing the arrival and departure of vessels, but they are, however, interesting for the purpose of comparison. A large portion of this data regarding commerce of the Buffalo district for 1891 has already been published in the REVIEW. The following shows tonnage owned in Buffalo and Cleveland, the two leading ports as regards ownership of vessel property, at the close of 1891:

	CLEVELAND.		BUFFALO.	
	Number.	Gross tons.	Number.	Gross tons.
Steam vessels.....	167	161,225.42	179	76,815.51
Sail and barges.....	107	51,563.10	142	87,254.51
Totals.....	274	212,788.52	321	164,070.02

Collectors in the districts of Detroit, Chicago, Port Huron (including Bay City) and other important places where large fleets are owned, do not issue reports of this kind with the close of the calendar year, because they are not compelled to do so, but such statements are of course included in their annual statements at the close of the fiscal year.

Buffalo's entries and clearances during 1891 number 5,444, the aggregate tonnage of which was 4,495,705. In the Cleveland district, which includes Ashtabula, Fairport and Lorain as well as Cleveland, the entries and clearances numbered 9,776 and the aggregate tonnage was 8,007,392. Entries and clearances of the different ports in the Cleveland district were as follows:

COASTWISE CLEARANCES AND ENTRIES, 1891.

DISTRICT OF CLEVELAND.	CLEARED.				ENTERED.			
	STEAMERS.		SAIL VESSELS.		STEAMERS,		SAIL VESSELS.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
Cleveland.....	1711	1,471,581	1197	544,749	1660	1,408,341	1234	537,939
Ashtabula.....	725	969,137	248	183,131	773	983,048	247	185,338
Fairport.....	322	410,987	108	84,567	360	461,384	143	106,722
Lorain.....	134	115,581	133	100,400	123	113,996	133	102,196
Total.....	2892	2,967,236	1686	912,847	2916	2,966,769	1757	932,195

FOREIGN CLEARANCES AND ENTRIES, 1891.

DISTRICT OF CLEVELAND.	CLEARED.				ENTERED.			
	STEAMERS.		SAIL VESSELS.		STEAMERS.		SAIL VESSELS.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
Cleveland.....	137	86,414	106	27,955	102	57,318	43	11,497
Ashtabula.....	8	5,285	27	9,900	6	2,816	20	5,707
Fairport.....	4	4,042	5	2,549	1	34	2	590
Lorain.....	27	7,479	11	2,606	20	2,762	6	1,391
Total.....	176	103,220	149	43,010	129	62,930	71	19,185

Iron ore statistics have been fully reported through the dock companies but the custom house figures on coal shipments (bituminous) are new. The lake shipments of the district for 1891 foot up 1,792,060 net tons, divided as follows:

DISTRICT OF CLEVELAND.	COASTWISE.	FOREIGN.
	Net tons.	Net tons.
Cleveland	989,044	114,919
Ashtabula.....	241,230	25,173
Fairport.....	123,649	8,408
Lorain.....	273,036	16,701
Totals.....	1,626,859	165,201

The aggregate of tonnage entering and clearing at Toledo, during the year was 1,956,351 tons.

Ex-Harbor Master James F. Trowell of Milwaukee presents a report showing that the port received by lake during the year 762,735 tons of anthracite and 243,921 tons of bituminous coal, a total of 1,006,656 tons. This shows an increase over 1890 of 194,619 tons in anthracite and a decrease of 91,622 tons in bituminous.

The following table, shows the receipts of anthracite coal at Chicago from May 1 to the closing of navigation, compared with last year.

	1891.	1890.	
By Lake.....	1,229,759	1,201,797	Inc. 27,962
By rail.....	395,495	282,320	Inc. 113,175
Stock on hand.....	223,808	297,371	Dec. 73,563
Total.....	1,849,062	1,781,488	Inc. 67,574

Prices of Iron and Steel in 1891.

In the current issue of the Bulletin of the American Iron & Steel Association a table is given of the average monthly prices of ten leading articles of iron and steel in eastern markets in 1891. Average yearly prices for several years past are also given, of which the following is an extract :

Steel rails, Penn. Mills,.....	\$29.25	1889	1890	1891
Bessemer pig, Pittsburgh,.....	18.00	18.85	15.95	
*Gray Forge, "	15.37	15.78	14.06	
Muck bar, "	1.71	1.85	1.71	
*Lake ore mixed.				

Iron Mining.**VALUE OF LEADING STOCKS.**

Quoted by Chas. H. Potter & Co., No. 104 Superior St: Cleveland, O.

Stocks.	Par Value.	Bid.	Asked.
Cleveland-Cliffs Iron Company.....	\$100 00	\$.....	\$ 80 00
Champion Iron Company.....	25 00	.....	75 00
Chandler Iron Company.....	25 00	46 00	.....
Jackson Iron Company.....	25 00	.....	100 00
Lake Superior Iron Company.....	25 00	.....	.....
Minnesota Iron Company.....	100 00	.....	80 00
Pittsburg Lake Angeline Iron Co.....	25 00	145 00	.....
Republic Iron Company.....	25 00	24 00	25 50
Ashland.....	25 00	.....	.....
Section Thirty-three.....	25 00	6 00	.....
Brotherton.....	25 00	2 00	.....

Buyers and sellers of iron mining stocks are apart on prices, on account of peculiar conditions surrounding the iron trade and there is little doing in the way of sales. The Minnesota company's regular quarterly dividend of $1\frac{1}{2}$ per cent. and \$1 a share from the Chandler company arrived with the first days of the new year, but there is no talk of any additional sharing of profits by other companies. It is of course expected that the Pittsburgh and Lake Angeline company will continue dividends of \$2 a share each month, and it is thought that the payment of \$1 a share by the Chandler company with the opening of the year will be followed by a similar dividend every two months, but there is nothing definite as to this latter expectation. Furnace men are unwilling to pay advanced prices for ore for next season's delivery and the producers can not afford to sell at less than about 50 cents a ton advance, on account of the certainty of increased lake freight. Thus there is again a waiting disposition in the market, but the conditions favor the producers of ore, who are making preparations for a big output, and any advance in the price for next season will help the market for iron mining stocks.

In 1890 shipments of iron ore from Escanaba were greater in the aggregate than the shipments of any other port in the world, not excepting Bilbao, Spain. Escanaba shipments for 1891 have, however, fallen short of the aggregate for 1890, being but 3,052,813 tons, against 3,054,910 tons shipped from Bilbao during the eleven months between Jan. 1 and Nov. 30, 1891.

Stock in the Chandler mine has sold during the past week at \$48, ex-dividend. At this price per share the Chandler property, although only a lease, represents an aggregate value of about \$2,000,000. A surplus of more than \$750,000 held by the company is the cause of the present value of stock.

Mr. T. F. Cole assumed the management of the Chapin mine at Iron Mountain on Jan. 1, and Capt. Tresona was made superintendent of the Buffalo at Negaunee.

Report of Experimental Trip,

MADE UPON SCREW STEAMER E. P. WILBUR TO THE BUILDERS
THE GLOBE IRON WORKS COMPANY, CLEVELAND, O.,

[BY GEO. C. SHEPARD.]

The engines ran smoothly and without a hitch except for the pound of pumps attached, and the maximum power obtained in this case, that of 1600 I. H. P. is not the highest that might be obtained by carrying the steam higher in and cutting off longer. Even with this indicated horse power we get the good result in I. H. P. per square foot of grate surface of 9.8 I. H. P., and the I. H. P. per ton of machinery is 6.25.

The "Wilbur" burned on this trip 239 tons of coal and this seems excessive until the quality of coal is understood. The 29% refuse in most of the coal would not only fail to produce heat itself but would prevent the combustion of the carbon and other heat producing elements. Another reason for excessive consumption of fuel may be found in the practice of running when light with the throttle two-thirds open, preventing the use of the whole expansive quality of the steam. Again the steam steerer was very wasteful as shown by a strong exhaust. This may explain why the indicated water consumption is so much lower than the actual water feed to boilers. A careful investigation might develop the fact that the pitch of the screw was excessive for the diameter and for the power of the engine and thus again account for large fuel bills.

This report and the trip before it was made more especially for the satisfaction of a commercial rather than a purely technical interest; to determine the efficiency of this combination of hull, boiler, machinery and screw, but many points of technical interest have necessarily been brought out and were it so desired the data are sufficient for many more.

Considering that the vessel was to proceed with all despatch, that the weather was not always propitious and that assistance was often wanting, the data are all that could be expected, and to Mr. Whitney, chief engineer of the line, and to Mr. L. C. Crouch is due much of the success of the trip.

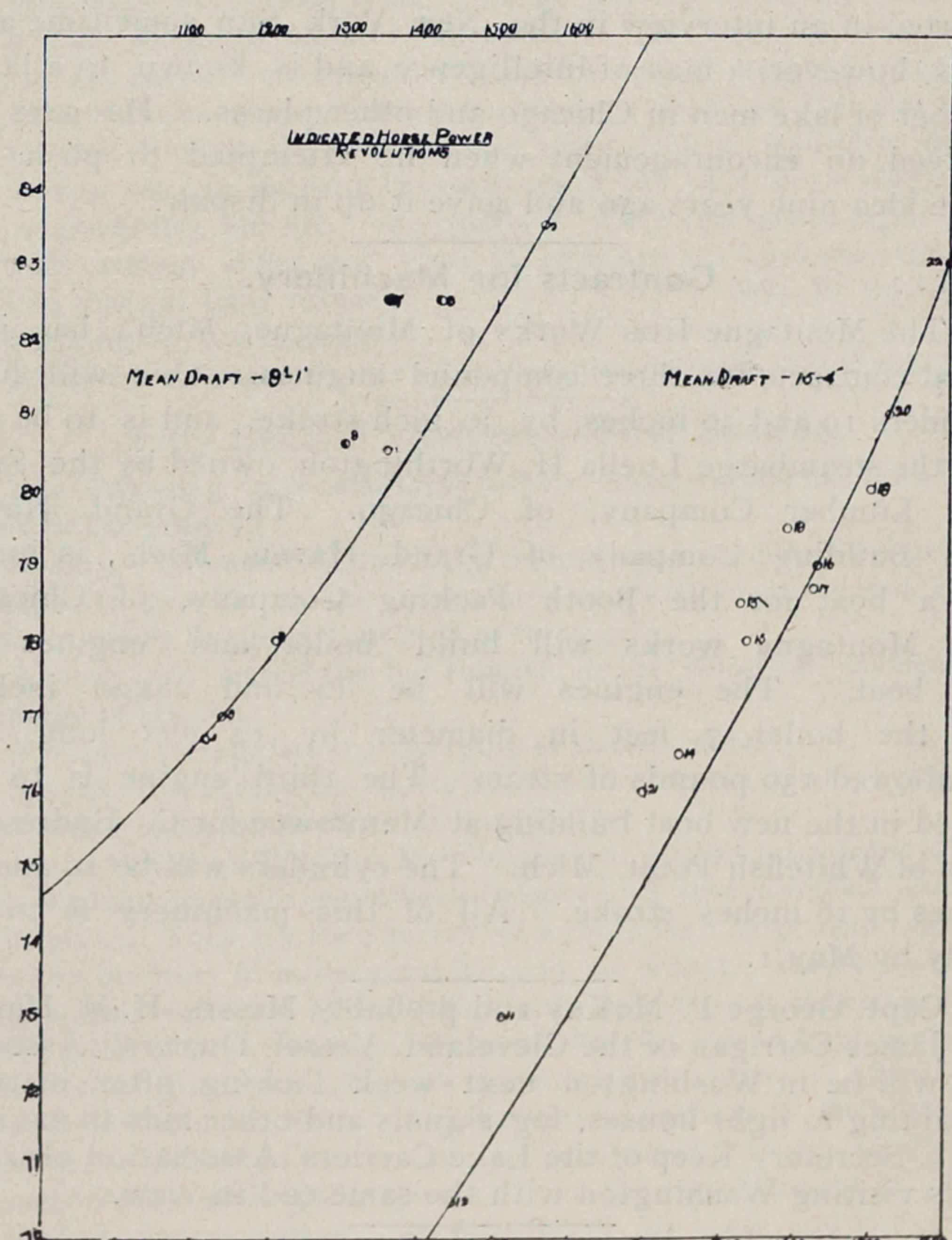
TABLE 6. DATA FROM GENERAL TESTS.

1 Number of test.....	1	2	3	4	5
2 Reference in table 1.....	12-14	18-20	36-38	45-47	50-52
3 Duration of test.....	2.00 hrs.	2.00 hrs.	2.20 hrs.	2.10 hrs.	1.55 hrs.
4 Mean draft of water.....	9 ft. 1 in.	9 ft. 1 in.	15 ft. 4 in.	15 ft. 4 in.	15 ft 4 in
5 Force and direction of wind.....	& abeam.	L ahead.	none.	L ahead.	none.
6 Notch of engine.....	2d	3d	2d	3d	2d
7 Draught in uptake.....	.....	19-32 in.	Forced.	.....	1/2 in.
8 Boiler Pressure.....	140	141.5	134.5	144.5	149.5
9 Atmospheric pressure.....	29.6	29.55	29.5	29.55	29.45
10 Vacuum pressure.....	22.6	22.3	23.3	22.	22.
11 Revolutions per minute.....	76.7	81.	71.5	77.9	76.6
12 Temperature external air.....	53	.....	59	65	65
13 Temperature uptake.....	570	628	603	660	652
14 Temperature injection on water.....	56	46	53	55	56
15 Temperature hot well.....	130.6	129.6	129	130	130
16 Indicated horse power.....	1146	1363	1081	1408	1321
17 Indicated water consumption.....	15.1	15.7	14.6	14.85	14.75
18 Total pounds coal burned.....	5123	6867	6540	6279	6540
19 Per cent. ashes.....	29	29	29	20	29
20 Total lbs. combustible burned.....	3637	4876	4644	5023	4644
21 Coal per hour.....	2561.5	3433.5	2806.5	3139.5	2376.9
22 Combustible per hour.....	1818.7	2488	1853	2511.6	2431
23 Water fed to boilers and apparently evaporated per hour.....	23,080	.....	.....	.....	25,001

TABLE 7. RESULTS FROM GENERAL TESTS.

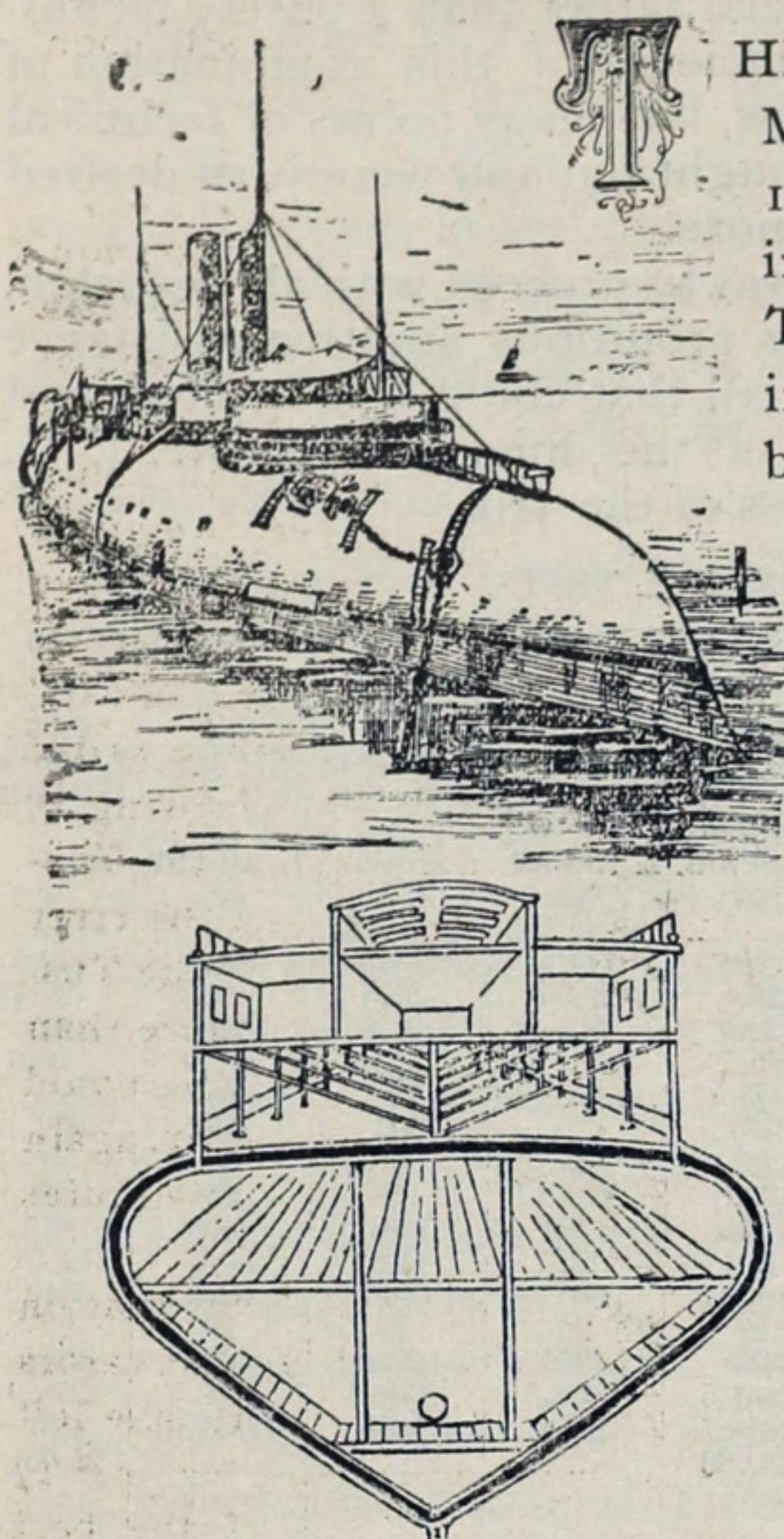
1 Number of test.....	1	2	3	4	5
6 Notch of engine.....	2d	3d	2d	3d	2d
16 Indicated horse power.....	1146	1363	1081	1408	1321
24 Equivalent water evaporated from and at 212 deg. per hour.....	26,126	.....	.....	28,286	.....
25 Water evaporated per lb. coal.....	9.0	.....	.....	7.96	.....
26 Equivalent water evaporated per lb. coal from and at 212 deg.....	10.18	.....	.....	9.0	.....
27 Coal per sq. ft. grate surface per hour.....	15.81	21.19	17.32	19.37	14.67
28 Combustible per sq. ft. water heating surface per hour.....	.32	.43	.33	.45	.43
29 Indicated water consumption per lb. coal.....	6.7	6.21	5.61	6.97	8.19
30 Coal per I. H. P. per hour.....	2.23	2.51	2.59	2.22	2.51
31 Combustible per I. H. P. per hour.....	1.59	1.78	1.71	1.78	1.84
32 Water fed to boilers per I. H. P. per hour.....	20.1	.....	.....	17.7	.....
33 Speed of vessel.....	13.8	15.25	12.66	13.92	13.52
34 Coal per ton of displacement over one mile.....	.077	.093	.053	.052	.040
35 Combustible per sq. ft. grate surface per hr.....	11.	14.79	11.35	15.48	14.79

TABLE 2.



[THE END.]

McDougall's War Vessels.



THE French built war ships of the McDougall barge pattern as early as 1868. One of them is shown afloat in the accompanying engraving. The sectional view in the engraving shows the plan of boat patented by Capt. Denison C. Pierce, who was born in Clayton, N.Y., and who turned up in New York city a short time ago, after having been away from the lakes for several years. Capt. McDougall is figuring on applying the whaleback to war service and, although it is not generally known, he has had made of late a large number of photographs showing the proposed war vessels and the plan of operating them. His idea is to adapt the barges to coast defence service. They are to be so

constructed that by means of water ballast they can be submerged, leaving only a small turret for a lookout forward and the bow, or "snout" as it is termed, above water. In the bow, which is of great strength, two heavy guns will be stationed on an incline, and they will be so operated that while one is being fired the other is being charged below in the vessel. McDougall is said to have taken out patents on this style of war vessel here as well as in several European countries.

The drawings of the French war vessel and the design of Capt. Pierce are reproduced for the reason that they have attracted a good deal of attention, on account of their bearing on the patent claims of the American Steel Barge Company. An attempt has been made to ridicule the claims of Capt. Pierce, as reported in an interview in the New York Sun some time ago. He is, however, a man of intelligence and is known to a large number of lake men in Chicago and other places. He says he received no encouragement when he attempted to push the barge idea nine years ago and gave it up in despair.

Contracts for Machinery.

The Montague Iron Works of Montague, Mich., has just closed contracts for three compound engines. One will have cylinders 19 and 36 inches, by 30 inch stroke, and is to be put into the steam barge Luella H. Worthington, owned by the Spalding Lumber Company, of Chicago. The Grand Haven Ship Building Company of Grand Haven, Mich., is building a boat for the Booth Packing Company, of Chicago. The Montague works will build boiler and engines for this boat. The engines will be 14 and 28x20 inches, and the boiler 7 feet in diameter by 12 feet long, being allowed 130 pounds of steam. The third engine is to be placed in the new boat building at Manitowoc for C. Endress & Sons of Whitefish Point, Mich. The cylinders will be 10 and 20 inches by 16 inches stroke. All of this machinery is to be ready by May 1.

Capt. George P. McKay and probably Messrs. H. M. Hanna and James Corrigan of the Cleveland Vessel Owners' Association will be in Washington next week looking after matters pertaining to light-houses, fog signals and other aids to navigation. Secretary Keep of the Lake Carriers' Association also intends visiting Washington with the same end in view.

Write "MARINE REVIEW, 510 Perry-Payne Bldg., Cleveland, O.," on an envelope, write your address on a slip of paper, enclose a dollar bill, and mail it for six month's subscription to the only illustrated marine paper on the lakes.

CHICAGO LAKE INTERESTS.

WESTERN OFFICE, MARINE REVIEW,
No. 210 So. Water Street, CHICAGO, Ill., Jan. 7.

A few boats are still being chartered for wheat at 5½ cents a bushel to Buffalo, storage and freight. This is about what vesselmen expected. I doubt if the rate is much lower for several weeks. The feeling here is decidedly bullish on the marine business for next year. The bears are few and hard to find. Unlike your Detroit correspondent, I cannot see any particular signs of disaster for the coming season. The movement of grain is not going to stop so suddenly after the opening of navigation next spring as he calculates upon. All previous records of the movement of grain will in turn be broken. If the iron ore traffic does as well as it did in 1890, there is nothing to fear for 1892. As for 1893, with the great increase in lake fleets, that is another question. It does not seem possible that the season of 1891 can be eclipsed for bad business, no matter how many boats are built.

Would it not be well to have the next convention composed of representatives of the lake marine exclusively. Such a convention would deal with the general questions of lighthouses, dredging and safe guards to navigation and take proper action where general marine interests are concerned. The REVIEW, in its foot note of explanation, accompanying a recent Chicago letter, made it appear that some Chicago delegates to the Detroit convention were sore over something. Not at all. But that convention was so delightfully general that the next convention should be as charmingly particular. Glittering generalities are well enough, but they are poor for a steady diet. I should like to see a convention of marine men get together and say just what they want in order that real ships can carry real freight more safely and expeditiously on the great lakes. The fine for comparing the commerce of the lakes now with what it was in '55 should be not less than \$1. In other ways the convention should consider the needs of the lake marine right now—not a generation ahead nor of a bygone era. There are twenty people who are worrying themselves to death over the needs of their grandchildren and great grandchildren to one man, who really knows what is best to be done to-morrow. Give us the particular for once.

A well informed miller predicted the other day that the future great flouring mills of the northwest would be located at the head of Lake Superior. Steam costs less than transhipping the grain at intermediate points. He went over the whole ground so carefully that one could scarcely help being convinced. It is certain that Duluth flour is even now successfully competing with the Minneapolis product in the Chicago home market.

The wreck report of the burning of the steamer H. A. Tuttle in port a fortnight ago places the loss at \$30,000 with an insurance of \$20,000.

A change is said to be at hand with a prominent vessel agency, the senior partner retiring to enter another business. He does not want the news to get around just yet for very good reasons.

Heavy Movement of Flour.

Special Correspondence to the MARINE REVIEW.

MILWAUKEE, Wis., Jan. 7.—The movement of flour out of this port by lake during the month of December was greatly retarded through a scarcity of cars at east shore terminals. On one or more occasions the Grand Trunk steamers were detained at Grand Haven a full week before sufficient cars were furnished to receive their cargoes. Similar trouble was experienced at Ludington also, where, after the immense warehouse had been filled, steamers were held for cars. A temporary withdrawal from service of the No. 5 had been fully decided upon when the supply of rolling stock was suddenly increased, and now all five steamers are fully engaged, the No. 5 for the time being assisting the No. 2 in raising a freight blockade at Manitowoc. At Grand Haven, too, sufficient rolling stock is now being supplied to receive all the freight the steamers can handle. Owing to the heavy movement of flour to the seaboard from Minneapolis and other western points the St. Paul and Northwestern railway companies have been compelled to shut local millers out from their warehouses almost entirely, and the millers have had to lease the houses of the Northern Michigan, Lehigh Valley and Lake Michigan and Lake Superior transportation companies for storage and shipment purposes. The pressure for warehouse room has become so great here that the erection of several large new sheds will no doubt be undertaken next season. One of these is to be located on new dock property of the St. Paul railway about 150 feet wide and 500 feet long, just west of East Water street bridge, while another may be built on the south side of the river, between East Water street and Broadway bridges. The Anchor Line people are known to be seeking dock and warehouse room for their local freight traffic, and may locate at one of the points indicated, probably on the railway companies site.

Of the intentions of the St. Joseph and Lake Michigan Transportation Company, mentioned in the MARINE REVIEW last week, it may be said that Hon. Frank W. Wheeler, during a visit to St. Joseph a week or so ago, intimated that the steamer *Lora* would probably be run to Chicago

and the Ossifrage to Milwaukee, out of that port, in the freight and passenger trade. The Lora is being supplied with a fore-and-aft compound engine and is also having her accommodations for passengers improved, while thirty feet are to be added to the length of the Ossifrage. Should Mr. Wheeler's scheme be carried out, Milwaukee will have two lines of steamers to St. Joseph next season, while still another line from Milwaukee to Michigan City is in embryo, with every prospect of it being established. It remains to be stated that the St. Joseph and Lake Michigan Transportation Company will be operated principally in connection with the Vandalia railway line out of Chicago.

Evidence in the collision case of the schooner Starke against the schooner Charles E. Wyman, docketed for hearing during the March term of the United States district court for the eastern district of Wisconsin, is now being taken. The collision occurred off Port Washington last summer, the Starke, which was laden with a floatable cargo, receiving damage which caused her to waterlog and capsize. The claim preferred against the Wyman is for \$7,000. According to current gossip the owners of the Wyman offered to settle for something over one-half of this sum but met with a refusal. Hence they concluded to let Judge Jenkins determine the amount of their liability should the Wyman be found at fault.

The announcement that the resignation of Capt. Charles E. Moody as master of the steamer F. & P. M. No. 5, had been accepted has turned out to be erroneous. Loth to part with Capt. Moody's services the railway company at the last moment raised his salary and thus secured his consent to remain with them. The scramble for a master's berth will now be turned from the doors of the F. & P. M. officials in the direction of the St. Paul, Minneapolis & Sault Ste. Marie railway management and their whaleback steamers under contract at West Superior.

The Milwaukee Tug Boat Line management kept tab on the steamers Helena and Veronica during the past season with this result: The Helena travelled 25,600 miles on an average coal consumption of 200 pounds per mile, or 10 miles per ton of coal. The Veronica traveled 25,120 miles on an average of 155 pounds of coal per mile, or 13 miles for every ton of coal consumed. The Helena carries nearly as much again as the Veronica. Her engine is a triple expansion, with Scotch type boilers, while that of the Veronica is a fore-and-aft compound with marine boiler.

Toledo Notes.

Special Correspondence to the MARINE REVIEW.

TOLEDO, O., Jan. 7.—Conrad & Cardinal are rebuilding the tug Dexter, recaulking the steamer Panther and putting new deck, deck beams and hatch combings on the barge Massasoit.

Capt. D. H. Mallory of the steamer George G. Hadley is wearing a brand new gold watch, presented to him by the owners of the big boat.

Capt. Thos. D. Gibson has been re-appointed master of the steamer Panther.

Mr. Fred. M. Harmon, last year chief engineer of the steamer Joliet, is visiting relatives in the city. He began lake service on Toledo tugs.

Activity in Detroit Shipyards.

Special Correspondence to the MARINE REVIEW.

DETROIT, Mich., Jan. 7.—With five boats under way at the different yards of the Detroit Dry Dock Company, and the steamer Kasota coming out with a rebuild which will make her almost equal to a new boat, there is certainly a great deal of activity in the ship building line here. The Kasota has been sold to Detroit parties—price understood to be in the neighborhood of \$90,000. The work of repairing her has begun and every effort will be made to have her ready for the opening of navigation. Of the five steamers building by the dry dock company, three will be of steel and two of wood. They are:

No. 107 for the Cleveland-Cliffs Company of Cleveland, Wm. G. Mather, president, a steel pig iron steamer 225 feet long, 35 feet wide and 17½ feet deep, with engines 19, 30 and 52 x 40 inches stroke; boilers 11 x 11; cost \$117,000.

No. 108 for the Detroit Belle Isle and Window Ferry Company, a wooden passenger boat similar in design to those now in this service, 130 feet long, 39 feet wide and 13 feet 8 inches deep; cost \$50,000.

No. 109 for the Clark estate of Detroit, a steel passenger boat 165 feet long, 35 feet wide and 9½ feet deep; engines 16, 24 and 38 x 24 inches stroke; boilers 7½ x 12; to be an eighteen mile boat, cost \$75,000.

No. 110 for Anchor Line, E. T. Evans, Buffalo, manager, a steel freight boat, "straightback" pattern, 289 x 40 x 26 feet; engines 20, 33 and 54 x 42 inches stroke; boilers 14 x 12; cost \$175,000.

No. 111 for Graham & Morton of Chicago, a wooden passenger boat similar to the Indiana, 212 feet long, 39 feet 6 inches beam, 15 feet deep; 1200 horse-power, and to develop eighteen miles an hour; cost \$128,000.

Steamer No. 111 will be built at the upper yard of the Detroit Dry Dock Company, No. 108 at the Clark dry dock yards, and the steel steamers at the Wyandotte plant.

The cofferdam at the new dry dock has been made perfectly tight and work is well along towards remedying the defect discovered last fall.

Work on the new machine shop of the Dry Dock Engine Works is well along and the building is expected to be completed in 60 days. Plans for a new boiler shop are about completed, and the company will soon have one of the best equipped boiler shops in the country.

Tuscarora—Owego.

EDITOR MARINE REVIEW:—With hesitancy I intrude myself upon you, as I know you must have a great deal of matter of more importance than a controversy between two steamship masters as to the relative speed of the vessels they command. "U. L." which I presume means Union Line has found space in your columns for several falsehoods which I will thank you for space to enable me to correct. The Union Line flyer Owego we have always understood, was built more for speed than for profit. I have met her on several occasions and have beaten her with the Tuscarora. No one is more astonished at the remarks over the signature "U. L." which recently appeared in your paper than myself. I note that the writer claims that when the Tuscarora beat the Owego the latter was drawing 15 feet 7 inches and the former boat 13 feet 10 inches. The fact is the Tuscarora was drawing 15 feet 3 inches. He says the Tuscarora ran the river the entire length without checking. This is a falsehood also. The Tuscarora checked, as always, in shoal water, and did not average more than half speed through the whole river. Finding that the Tuscarora could easily keep ahead of the Owego after passing Bar point, she was not again pressed to full speed during the trip. We arrived in Buffalo 25 minutes ahead of her, not 4 minutes, as the writer "U. L." states.

I shall have to correct another mis-statement. "U. L." says that on Dec. 1 the Owego left Milwaukee over two hours behind the Tuscarora and passed her the following day off Skillagalee. The fact is she left Milwaukee just 12 minutes behind the Tuscarora and passed her just 17 hours after she left there. She took on a large quantity of the best screened coal in Milwaukee, at a cost, I am informed, of \$4.50 per ton, for the purpose of racing with us, whereas we had nothing but run of mine coal which we had taken on at Buffalo. The standing instructions from the manager are that there shall be no racing and, as a consequence, there never is any racing in our line. Capt. Burns of the Owego knew before he left Milwaukee that we were short of fuel and it was utterly impossible to drive the ship to any great speed. Now with regard to the class of the two steamers: If all I hear about the Owego is true I am satisfied that the Tuscarora is not in that class but a much better one.

Buffalo, Dec. 31, 1891.

L. L.

Suggestions From the Commissioner of Navigation.

EDITOR MARINE REVIEW:—I have just read with much interest the statistics of Gen. Poe printed on page 7 of the number for Dec. 31, but also with some regret have noted that that there is no data given whence to find how much was earned by the tonnage passing the locks. The carrying trade seems to be never included in the business done at any port, in any part of our country. Our statisticians all seem to be men who never think shipping contributes to business. Why not the editors of the MARINE REVIEW show the country a new leaf in statistical matter the coming year, by showing the earnings of the lake fleets along with that of producers, etc. etc. The vessels in the Puget sound export lumber trade average 30 per cent. more in earnings—in business—than the mills do that cut their cargoes.

WM. W. BATES.

Washington, Jan. 2, 1892.

[Editorial reference to this communication is made elsewhere.—ED.]

Fifty Second Congress—First Session.

The following bills of interest to lake vessel owners has been introduced in Congress:

S. 1223.—To amend section 4,153, revised statutes, defining registered tonnage, to provide for the supervision of vessel measurement, and to secure accuracy in the computation of tonnage.

S. 1224.—To amend the law relative to the shipment, payment and discharge of seamen.

S. 1225.—To regulate the changing of vessel's names.

S. 1226.—To increase the safety of life and property on ships at sea by establishing rules for freeboard or load marks.

In the House on Tuesday, Mr. Chipman of Detroit introduced several bills, of which copies have not been received, so that numbers can not yet be given. They ask for a survey of a route for a ship canal through American territory from the great lakes to the Atlantic seaboard via the Hudson river; for a test of utility of Ward's patent wreck indicating buoy; for the relief of workmen engaged on the Poverty island light-house and for the establishment of telegraph communication between Alpena and adjacent life-saving stations. Representative Weadock of Michigan, introduced his bill for an increase of compensation in the life-saving service, and Mr. Johnson of Cleveland a bill for the establishment of a home for aged and infirm seamen. Mr. Burrows of Michigan introduced bills to increase the pay of inspectors of hulls and boilers at Marquette, and to create the northern judicial circuit of the state of Michigan and to provide for holding of the district and circuit courts at Marquette.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

JOHN M. MULROONEY, F. M. BARTON, } PROPRIETORS.

HOMER J. CARR, - - - Associate Editor and Manager Chicago Office,
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The books of the United States treasury department contain the names of 3,510 vessels, measuring 1,063,063.90 tons in the lake trade. In classification of this fleet the lakes have more steamboats of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The classification is as follows:

Class.	Number.	Tonnage.
Steam vessels	1,527	652,922.25
Sailing vessels.....	1,272	328,655.96
Canal boats.....	657	67,574.90
Barges.....	54	13,910.09
Total.....	3,510	1,063,063.90

According to the report of William W. Bates, United States commissioner of navigation, 46 per cent. of the new tonnage of the country was built on the lakes during 1889. This is a percentage greater than the work of the Atlantic coast and western rivers combined, and almost equal to the whole work on the Atlantic and Pacific coast. In 1890 the tonnage built on the lakes is but very little less than that built on the Atlantic and Gulf coasts. Tonnage built on the lakes during the past five years was as follows:

	No. of boats.	Net Tonnage.
1886.....	85	20,400.54
1887.....	152	56,488.32
1888.....	222	101,102.87
1889.....	225	107,080.30
1890.....	218	108,515.00
Total.....	902	393,597.03

St. Mary's Falls and Suez canal traffic: Number of boats through St. Mary's Falls canal in 1890, 234 days of navigation, 10,557; tonnage, net registered, 8,454,435. Number of boats through Suez canal during 1890, full year, 3,389; tonnage, net registered, 6,890,014.

Entered at Cleveland Post Office as Second-class Mail Matter.

In a letter printed elsewhere, William W. Bates, United States commission of navigation, calls attention to the interesting statistics of Gen. Poe on the St. Mary's Fall's canal traffic for the season of 1891, and suggests that such data regarding lake commerce should show the earnings of vessels engaged in the trade along with that of producers, etc. Another communication received recently from Congressman Vincent A. Taylor, of Ohio, says: "There has been published from time to time a statement that in the year 1889 the freight traffic tonnage passing through the Detroit river amounted 36,203,606 tons; while the superintendent of census, bulletin No. 28, Jan. 31, 1891 on transportation, freight traffic on the great lakes, says on page 21 that the total freight tonnage passing through the Detroit river for the season of 1889 was 19,717,860 tons. I can not understand the discrepancy between these two different statements. Will you please enlighten me on the subject?" To these and all such communications the only answer is that it is absolutely impossible to secure, under the present laws governing the arrival and departure of vessels at different ports on the lakes, an accurate statement of the total commerce of the lakes or even the commerce of any single port. The statements of commerce passing through the St. Mary's Falls canal, prepared by the canal officials, are thoroughly reliable, as are also the reports of the commissioner of navigation, covering tonnage owned and built in the different ports throughout the country, but the laws governing the dealings of collectors of customs with vessels arriving and departing in the coastwise trade do not permit of these officers making correct reports of the commerce in their several districts, and consequently there is no way of learning the aggregate of shipping business on the Detroit river or any other central point. If such was not the case there might be

some hope of following up with success the suggestions of the commission of navigation. As regards the inquiry from Congressman Taylor, the answer is to a great extent the same. The figures which he quotes from the census are largely made up of estimates, as Mr. C. H. Keep of Buffalo, who prepared them, admits while defending the data, that a great deal of it was secured from collectors of customs. The aggregate of 36,203,606 tons, quoted by the REVIEW as the commerce passing the City of Detroit in 1889 and referred to by Mr. Taylor, is also an estimate, prepared by Mr. Geo. H. Ely of Cleveland. On two occasions the shipping interests of the lakes tried to agree upon a bill regulating the arrival and departure of vessels, whereby accurate statistics of the commerce might be secured, but a proper interest in the matter was wanting. With the demand for a statistical branch of the government and the great advance made in statistical matter, within the past few years, it would seem time that the great lake interests should be no longer wanting in this important regard.

It is evident that the railway managers and shipping firms engaged in handling bituminous coal on the lakes intend to give a great deal of attention during the coming season to increasing dock facilities, and it would not be surprising to find methods entirely new in the business within a very short time. According to the United States census the coal production in 1890 was over 14,000,000 tons, or more than two tons for every man, woman and child in the country. To be exact the product was 140,049,970 tons, of which 94,495,000 tons, or about 68 per cent., was bituminous. Shipments of bituminous from Ohio and Pennsylvania by lake to the northwest in 1890 were above 3,000,000 tons, and although the figures for 1891 are not at hand it is about certain that they will show an increase. Progress in this branch of the lake trade has attracted special attention during the past two seasons, but the methods of handling the coal are crude in comparison with those employed in the ore trade. The loss from breakage in any system in which dump cars might be used has been the greatest drawback, but several dock equipment companies are now working on new devices from which great results may be expected.

IT IS unfortunate that the Lake Erie—Ohio river ship canal scheme as well as several other impracticable measures that are being crowded upon congress, were not allowed to come before the recent Detroit waterways convention for discussion. The convention could not, of course, permit of its time being taken up by these schemes, but it is certain that if they had come up for discussion the proposed Pennsylvania canal would be the first to be declared entirely impracticable, and there would be little need of preparing opposition in Congress to Senator Quay's bill for a survey of the canal route.

Criticism of Army Engineers.

In the January number of the Engineering Magazine, a technical publication that has made wonderful progress since first issued, less than a year ago, George Y. Wisner, a civil engineer of some note, presents an article of criticism entitled "Worthless Government Engineering." The author is now in charge of harbor work at the mouth of the Mississippi and in Texas, and was at one time engaged with the United States engineer corps on surveys and river and harbor work. He complains of the methods followed by the engineer corps and tries to prove from a number of cases cited that improvements are unnecessarily expensive whether done by contract or otherwise. The manner of awarding contracts is also criticised. None of the works in connection with which poor methods are charged are on the lakes.

Mr. H. J. Mills, secretary of the Dry Dock Association, announces Wednesday the 13th inst., as the date of the annual meeting, to be held at the Sherman House, Chicago.

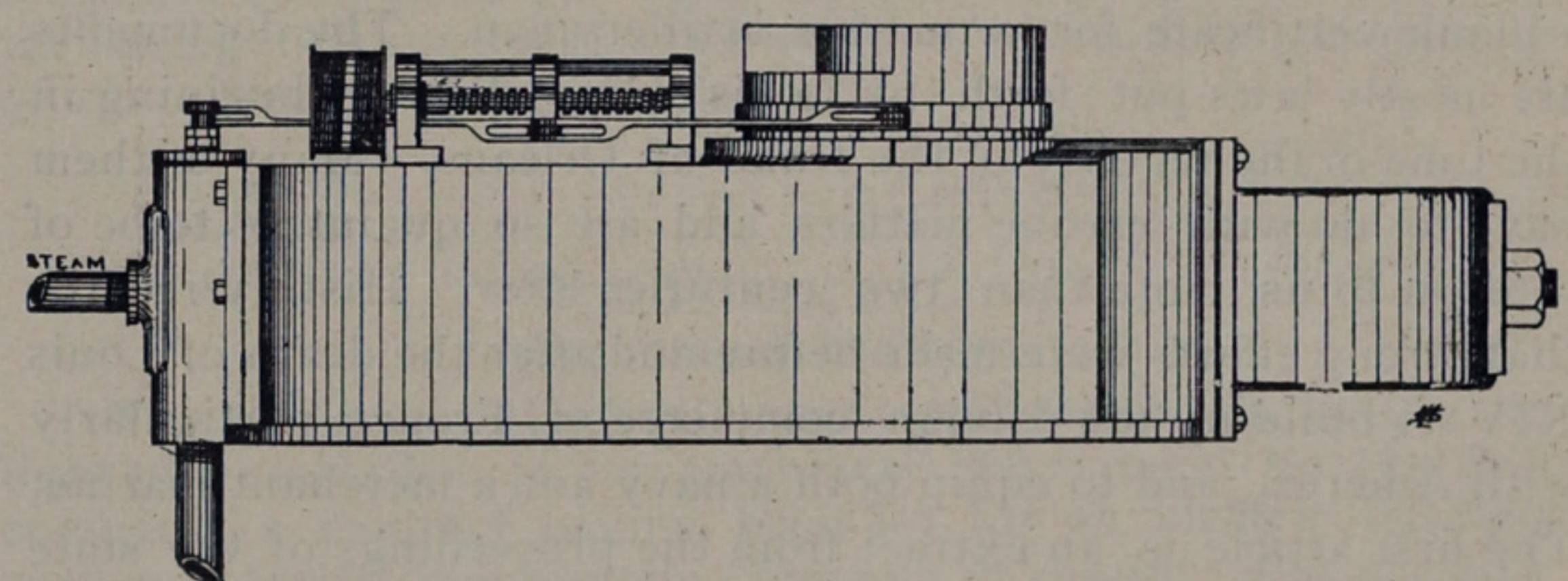
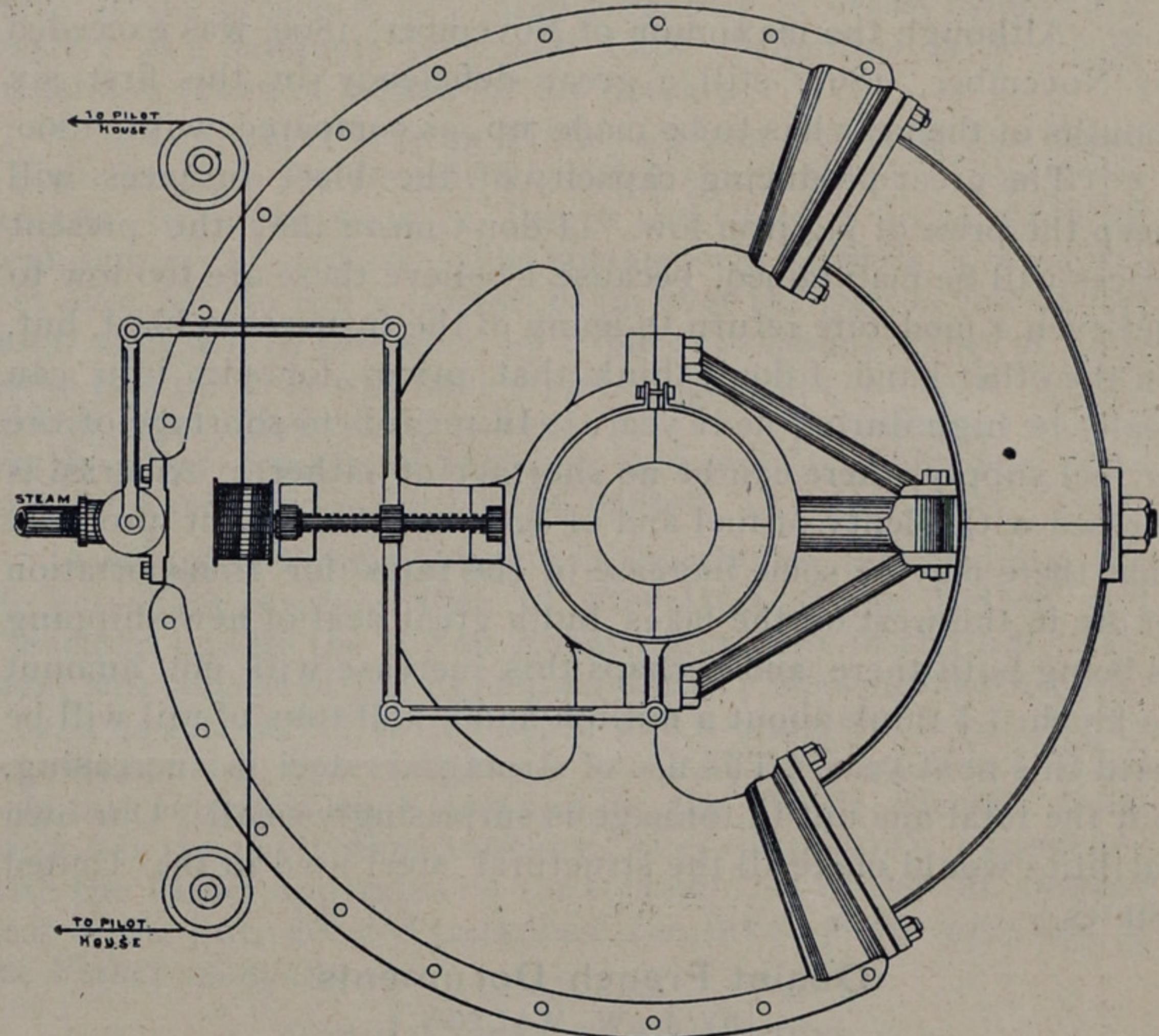
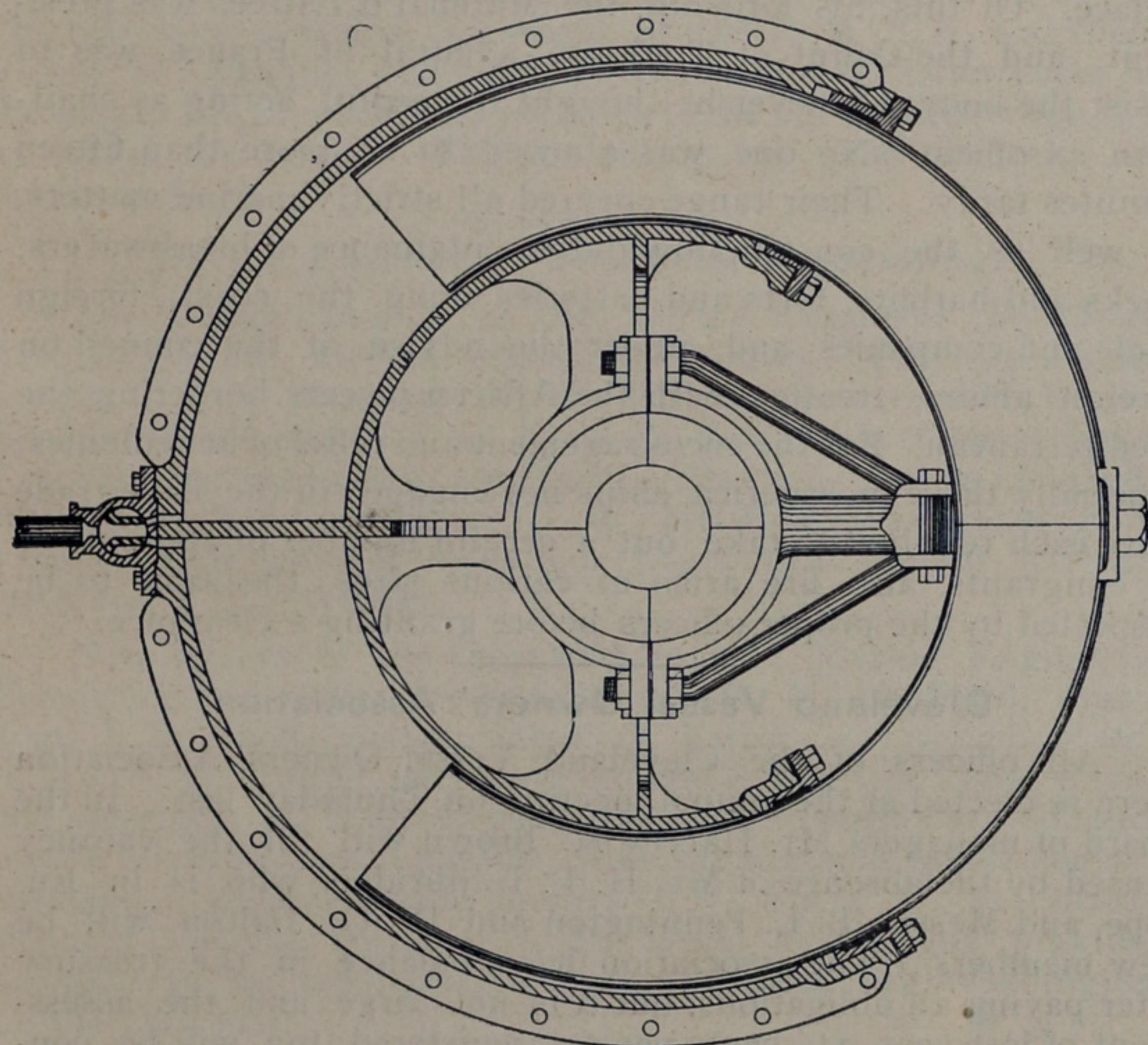
The Sanders Steering Engine.

F. W. Wheeler & Co. of West Bay City, Mich., are introducing the Sanders steering engine, shown in the accompanying engravings. The engine consists essentially of a circular steam box, or cylinder, and piston of peculiar construction. The piston is rigidly attached to the sleeve or clutch by means of a braced tiller. The cylinder is divided into two equal steam compartments by a diaphragm, and steam is admitted to these compartments, both being filled at the same time, through the valve. The valve-stem and rudder-post are connected by a series of links, so constructed and arranged as to render the entire mechanism perfectly automatic. The cylinder is cast entire, the outer ends being made to receive glands. It is provided above and below with webs to support the bearings of the sleeve through which the rudder-post passes. A flange is cast on the lower side of the cylinder, by which the engine is fastened to the deck of the vessel. The purpose of the glands is to form a steam

made larger and admits steam more rapidly. After having closed one port by this rotary movement of the plug, a further movement of the plug in the same direction opens the one port into the exhaust, thus relieving the pressure on that side of the cylinder, while the size of the other port opening is increased, admitting a greater supply of steam into that side of the cylinder, and driving the piston forward.

The automatic arrangement is of the simplest possible construction, and having no gears and but few parts, it is always reliable. Setting at opposite directions from each other, and at right angles to a line joining the axes of the valve and sleeve, are two arms or levers, rigidly attached to the valve-stem and sleeve respectively. To the outer end of these levers are jointed connecting links, which in turn are jointed to the opposite ends of a cross-link. This cross-link is pivotally connected with a nut which is borne by the screw, as shown in the engraving. At the forward end of the screw is a small drum, from which small cables lead to the pilot house, to the operating wheel.

The engine may be connected to the rudder-post in any



THE SANDERS STEERING ENGINE, F. W. WHEELER & CO., WEST BAY CITY, MICH.

tight bearing for the piston. The piston is in two parts, together forming 260 degrees of a circle. It is cored to make it as light as is consistent with the required strength. In section it is square or nearly so, the corners being rounded to prevent the cutting of the packing in the stuffing boxes.

The valve is of peculiar construction, having features common to no other. It has an outside casing, into which the steam and exhaust pipes are fitted, and two long narrow ports lead from this casing into the two steam compartments of the cylinder, one on each side of the diaphragm. It is also provided with a cover, which screws into the upper end of the casing. The shape of the plug is best understood by reference to the engraving. It is made to fit the casing exactly, and has a long port cut directly through it, a trifle wider than the bridge which separates the ports of the casing. By this means, steam is admitted to both compartments of the cylinder at the same time, thus keeping the cylinder at an even temperature, and maintaining boiler pressure therein as well. Upon the outside of the plug are two recesses, almost diametrically opposite, and running nearly the entire length, which serve as exhaust ports. It will be seen by this that a trifling rotary movement of the plug will close one port, at the same time the opening to the other is

suitable manner, but preferably by a clutch. The upper part of the sleeve above mentioned, is cast with two heavy lugs, forming the female part of the clutch. The rudder-post passes directly through the sleeve, and feathered to the rudder-post above the sleeve is fitted the male part of the clutch. This forms a very direct and convenient connection with the rudder, easily thrown in or out of gear. Where the tremulous motion so common to rudders is entirely obviated, the attachment may be made by keying the sleeve directly to the rudder-post. To operate the engine and drive the piston in either direction, it is only necessary to turn the operating wheel in the pilot house in the corresponding direction. The cable connection will then roll the drum and screw, carrying with it the nut and pivoted cross-link. Since the sleeve-link is comparatively rigid, any motion given to the cross-link will be communicated to the valve-stem-link and rotate the valve, thus relieving the pressure in the corresponding cylinder compartment, and allowing the pressure in the opposite compartment to drive the piston forward. The moment the piston starts forward, the link connections will begin to close the valve, so that when the piston has reached the required position the valve is entirely closed and the forward motion of the piston arrested.

Andrew Carnegie on the Iron Market.

A special statistical issue of the Engineering and Mining Journal just received, contains an interview with Andrew Carnegie on the iron market. He says: "Prices in the iron market can not remain so low as at present. With the opening of the year a stiffening in prices will take place; there will probably be a greater boom in shares upon the stock market than in the prices for iron and steel, but manufacturers, as a whole, seem likely to have a prosperous year, and it looks as if when they balanced their books for 1892 that these will show a moderate, perhaps a satisfactory profit. I don't believe, however, that any great advance in prices of any articles of iron and steel will take place until the country has grown up to its present surprising capacity. All the signs are good, while last year all the signs were bad. I don't believe that the United States can use permanently the amount of pig iron which it is now producing." Although the maximum of November, 1890, was exceeded by November, 1891, still a great deficiency in the first six months of the year has to be made up, as compared with 1890. "The great producing capacity of the blast furnaces will keep the price of pig iron low. I don't mean that the present prices will be maintained, because I believe these are too low to net even a moderate return to many of the furnaces in blast, but, on the other hand, I don't think that prices for pig iron can really be high during next year. In regard to shortage of ore or fuel supply, there can be no shortage of either. America is blessed with plenty of fuel and of ore, and I think it probable that there may be some increase in the rates for transportation of ore in the west on the lakes, but a great deal of new shipping is being built there, and perhaps this increase will not amount to much. I think about a million and a half tons of rail will be used this next year. The use of structural steel is increasing, but the total amount in tonnage is surprisingly small. Our own facilities would make all the structural steel used in the United States."

Quaint French Documents.

[BY J. W. WALTON.]

A curious old French book has fallen into my hands recently. It is made up of various documents printed in large old fashioned type on folio paper, with a folded frontispiece, which latter is a blank certificate for a marine artilleryman. The documents are mostly laws put forth by Louis XV. of France, beginning in the time of the regency of the Duke of Orleans. Many of them have to do with marine matters and are so quaint as to be of interest to us, more than two centuries later. History records that strong efforts were made before and after the death of Louis XIV. to build up the foreign commerce of France, particularly with America, and to equip both a navy and a merchant marine. The first article is an extract from the proceedings of the state council, dated Oct. 24, 1679, in which a bounty upon vessel building is offered, ranging from 500 livres for a vessel of 100 tons, to six livres per ton for vessels exceeding 200 tons, the same to be paid, half when the keel, the stem and the stern-post are in position, the remainder at the time of launching. The ancient livre answers approximately to the modern franc, but as money was then of more value than now, the amount of more than \$1 per ton must have been of considerable assistance to those engaged in ship building and navigation. Any person who should buy a foreign-built ship and who should have his papers in good form, "so that there shall remain no room for doubt of it," showing that none but Frenchmen had an interest in her, should be entitled to a bonus of four livres for each ton, but no vessel of less than 100 tons was included. This offer was to be publicly advertised and posted in every seaport town, as well as published for the information of the lawyers and agents of the crown, who were to carry it out without "asking any further permission" and so report to the king, who caused it to be sealed with the great seal of yellow wax.

Then follows an official description of the German empire, then a series of regulations on the subject of coast guards, under an edict of 1705. The idea carried out was to distribute the task of guarding the coast of the kingdom against invaders, so that the burden of defence, as well as the succor of those who are shipwrecked shall not alone fall upon those who happen to live in proximity to the sea. In case a vessel flying an enemy's flag should be so unfortunate as to come ashore, elaborate preparations are made for gathering a force sufficient to master, as well as to save the crew. A tenth part of the wreckage and half the merchandise saved from an enemy's vessel were the perquisites of the officers of the coast guard. Whether the privates were entitled to any share is not stated, but we may imagine that they took care of this themselves.

In 1715 a council of marine was established, who should meet at least twice a week in one of the halls of the Louvre palace. Of this, his lordship, the Marshal d'Estrees was president, and the Count of Toulouse, admiral of France, was to assist the body whenever he thought it needful, acting as chairman, ex-officio. No one was allowed to be more than fifteen minutes tardy. Their range covered all strictly marine matters, as well as the construction and maintainance of breakwaters, docks and harbors, forts and batteries along the coast, foreign trade and companies, and, under the advice of the council on foreign affairs, treaties with the African powers bordering the Mediterranean. For the encouragement and relief of her colonies, especially those in America, ships not engaged in the slave trade were each required to take out a certain number of apprentices as emigrants, also fire arms of various sizes, the same to be inspected by the proper officers before granting a clearance.

Cleveland Vessel Owners' Association.

All officers of the Cleveland Vessel Owners' Association were re-elected at the annual meeting on Thursday last. In the board of managers Mr. Harvey H. Brown will fill the vacancy caused by the absence of Mr. H. P. Lillibridge, who is in Europe, and Messrs. B. L. Pennington and H. G. Dalton will be new members. The association has a balance in the treasury after paying all obligations, but it is not large and the assessment of last year, $3\frac{1}{2}$ cents per net registered ton, will be continued. A total of 207 vessels aggregating 208,127 tons, hold membership in the association. The officers and committees as elected are as follows: H. M. Hanna, president; M. A. Bradley, vice-president; George P. McKay, secretary and treasurer. Board of managers—H. M. Hanna, R. K. Winslow, H. H. Brown, P. G. Minch, W. D. Rees, J. H. Palmer, M. A. Bradley, George P. McKay, Thomas Wilson, H. G. Dalton, W. C. Richardson, J. W. Moore, James Corrigan, B. L. Pennington. Executive committee—H. M. Hanna, Thomas Wilson, James Corrigan, M. A. Bradley, J. W. Moore, George P. McKay, B. L. Pennington. Mr. H. D. Goulder has been reappointed counsel for the association. The shipping masters are: A. R. Rumsey, Cleveland; Charles Fisher, assistant, Cleveland; William Rennick, Ashtabula; Andrew Biemel, Fairport.

Capt. Thomas Wilson brought up the subject of time when lights should be extinguished and buoys removed at the close of each season. The uncertainty surrounding this matter last fall caused a number of the vessel owners to ask for an expression of opinion from the association, and Messrs. Harvey D. Goulder and L. C. Hanna and Capt. Thomas Wilson were appointed a committee to draw up resolutions on the subject. The resolutions will undoubtedly ask, in accordance with the views of the meeting, that buoys, lights and light-ships, remain in operation, in all cases where it is at all practicable, until the last boats quit running.

Again the subject of navigation in narrow channels, such as Lake George and parts of the St. Clair and Detroit rivers was taken up. The results of the sinking of the steamer Peck and delays from other accidents were all talked of, and a patrol to regulate the speed of vessels in such places was proposed. It was decided finally that a committee, consisting of Thomas Wilson, William Mack, W. D. Rees, M. A. Bradley, James Corrigan, Harvey H. Brown and George P. McKay should take up this whole question with Gen. Poe, with a view to arriving at some conclusion. The committee will seek a consultation with Gen. Poe at an early date.

Excelsior Marine Benevolent Association.

Newly elected officers of the Cleveland lodge are: J. B. Hall, president; William Mack, first vice-president; Richard Neville, second vice-president; Thomas Jones, treasurer; W. A. Collier, financial secretary; E. T. Rattray, recording secretary. The appointive offices have not as yet been filled. It is expected that the meeting of the grand lodge in Cleveland will occur about the 21st inst. and arrangements have been made accordingly for the annual banquet and ball, which will take place on the evening of that date.

Port Huron lodge, No. 2, has elected officers for the new year as follows: Alex. R. Sinclair, president; C. S. Geel, first vice-president; A. A. Cox, second vice-president; Ed. J. Kendall, treasurer; W. A. Ashley, financial and corresponding secretary; A. C. May, marshal; P. F. Powrie, warden; L. Carly, sentinel, B. H. Cooper, chaplain. The installation of officers will take place at the next meeting, Saturday, Jan. 9. Capt. F. Miner has been elected to membership.

The evening of Jan. 20 is the time set for a gathering of the Chicago lake captains, members of the E. M. B. A. and their friends, at a banquet and ball. It will be the red letter event of the winter for the men who go down to the sea in ships when the ice leaves the straits. The committee has fixed the price of tickets at \$2.50.

Marine Engineers' Beneficial Association.

The Detroit branch of the Marine Engineers' Beneficial Association has elected officers as follows: Past president, Joseph Hayes; president, T. W. Walker; vice-president, Ed. R. Blanchard; treasurer, J. H. Kendall; financial secretary, Frank Kenyon; corresponding secretary, Albert L. Jones; chaplain, William Galpin; conductor, J. W. McClure; doorkeeper, Phil. Franconey; delegates to the national convention, John M. Cronenweth and T. W. Walker.

New officers of the Cleveland branch, Marine Engineers' Beneficial Association, are as follows: C. M. Stoddard, president; J. B. Wood, vice-president; J. Kirby, corresponding secretary; S. H. Hunter, recording secretary; William Lowe, financial secretary; M. B. Sturtevant, treasurer; James Carr, conductor; William Seaman, chaplain; John McMonagle, inside keeper; William F. Rieley, outside keeper; O. N. Steele, J. B. Wood, William Donovan, trustees: J. B. Wood and Evans Jenkins, delegates to the national convention, to be held at Washington on the 25th inst.

Milwaukee, No. 9.—W. E. Elliott, past-president; Joseph J. Krach, president; William Kavanaugh, vice-president; Frank Coons, treasurer; D. W. Chipman, Jr., financial secretary; John E. Lowgy, recording secretary; W. E. Elliott, corresponding secretary; W. G. Fell, chaplain; Charles McCarthy, conductor; John Mertes, door-keeper; D. W. Chipman, Jr., delegate; Joseph J. Krach, William Kavanaugh, Frank Coons, trustees.

Sturgeon Bay—Frank Kimber, president; Frank A. Ives, vice-president; L. C. Thorklidson, past president; Charles Chapman, treasurer; Henry Machia, financial secretary; F. C. Wright, recording secretary; Harry Scofield, corresponding secretary; Ashley Cofrin, chaplain; Joel Ashby, doorkeeper; James Curry, national representative.

Around the Lakes.

Capt. J. L. D. Kimball, aged 78 years, died at Toledo last week. He had spent most of his life on the lakes.

Jan. 1 is a rather late date for navigation on Lake Michigan, but the schooner Kate Winslow arrived at Green Bay on that day, light from Escanaba. She will load grain.

Louis P. Trempe, whose death is announced from Sault Ste. Marie, has been prominent in that place for more than forty years. He was sixty-two years of age and had lived at the Sault since 1846.

Sales of vessel property: Schooner Helena, (rebuilt) Milwaukee Dry Dock Company to Milwaukee Tug Boat Line, \$20,500; Schooner Adriatic, Capt. James Davidson of West Bay City to M. A. Bradley and Capt. George Stone of Cleveland, \$40,000.

The merchandise dock of the Duluth, South Shore and Atlantic Railway at Marquette, will be rebuilt during the winter. M. J. Peppard has the contract, which will require about 2,000,000 feet of plank and 500 spiles, in addition to other material.

The schooner Adriatic, purchased by M. A. Bradley and Capt. George Stone of Cleveland from Capt. James Davidson of West Bay City, is double decked and has a capacity of 70,000 bushels of corn from Lake Michigan or 1,750 tons of ore from Escanaba. She went into commission in the spring of 1890, rates A1 and had an insurance valuation last season of \$50,000.

A recent issue of the Buffalo Express presents a list of lake disasters for the season of 1891, and although incomplete, as all such compilations are, the disasters involve a loss of fifty-one lives, \$791,833 to the hulls of vessels and \$310,143 to cargoes, or a total of \$1,102,026. Small losses almost numberless, are not included in this statement and no account is taken of the cost of rescuing vessels.

On Thanksgiving day when the steamer Oswegatchie foundered on Lake Huron and her barges drifted ashore, Capt. Edward Ballantine of the steamer Elfin-Mere was among the lake faring men who displayed great bravery in rescuing the crews of the distressed vessels. He saved a crew of thirteen from the Oswegatchie. At Bay City a few days ago the owners of the Elfin-Mere in the presence of a large gathering of vessel owners and masters at a banquet, presented Capt. Ballantine with a gold medal as a token of regard for his bravery.

The Graham & Morton Transportation Company has closed a contract with the Detroit Dry Dock Company for a new screw steamer to run between St. Joseph and Chicago, to be ready for next summer's business. The steamer will be built of wood 212 feet over all, 39 feet 6 inches beam over the guards and 15 feet deep, and will be propelled by triple expansion engines of 1,200 horse power. She will have a passenger cabin the entire length of the ship, finished in mahogany. The new steamer will be worth when completed \$128,000, and will be constructed so as to be of some service during the winter.

A complete lighting plant will shortly be installed on the big passenger steamer City of Cleveland of the Detroit and Cleveland line by the Fisher Electric Company of Detroit. The plant will consist of 500 lights, two of the Fisher automatic dynamos, a double-acting switch-board and a complete installation in accordance with this company's standard specifications. This boat was equipped some time ago by the Brush Electric Company, but the navigation company, after a season's experience with the Fisher apparatus on the steamer City of Detroit, another boat of the line, decided to replace the Brush plant with that of the Fisher company.

Grain Stocks and Freights.

Chicago is still offering 5½ cents on wheat for winter storage and delivery at Buffalo next spring. Duluth shippers have offered in a few cases 4½ cents for boats to arrive for cargoes in the spring. Grain stocks at Chicago and Duluth at the opening of the present week were as follows:

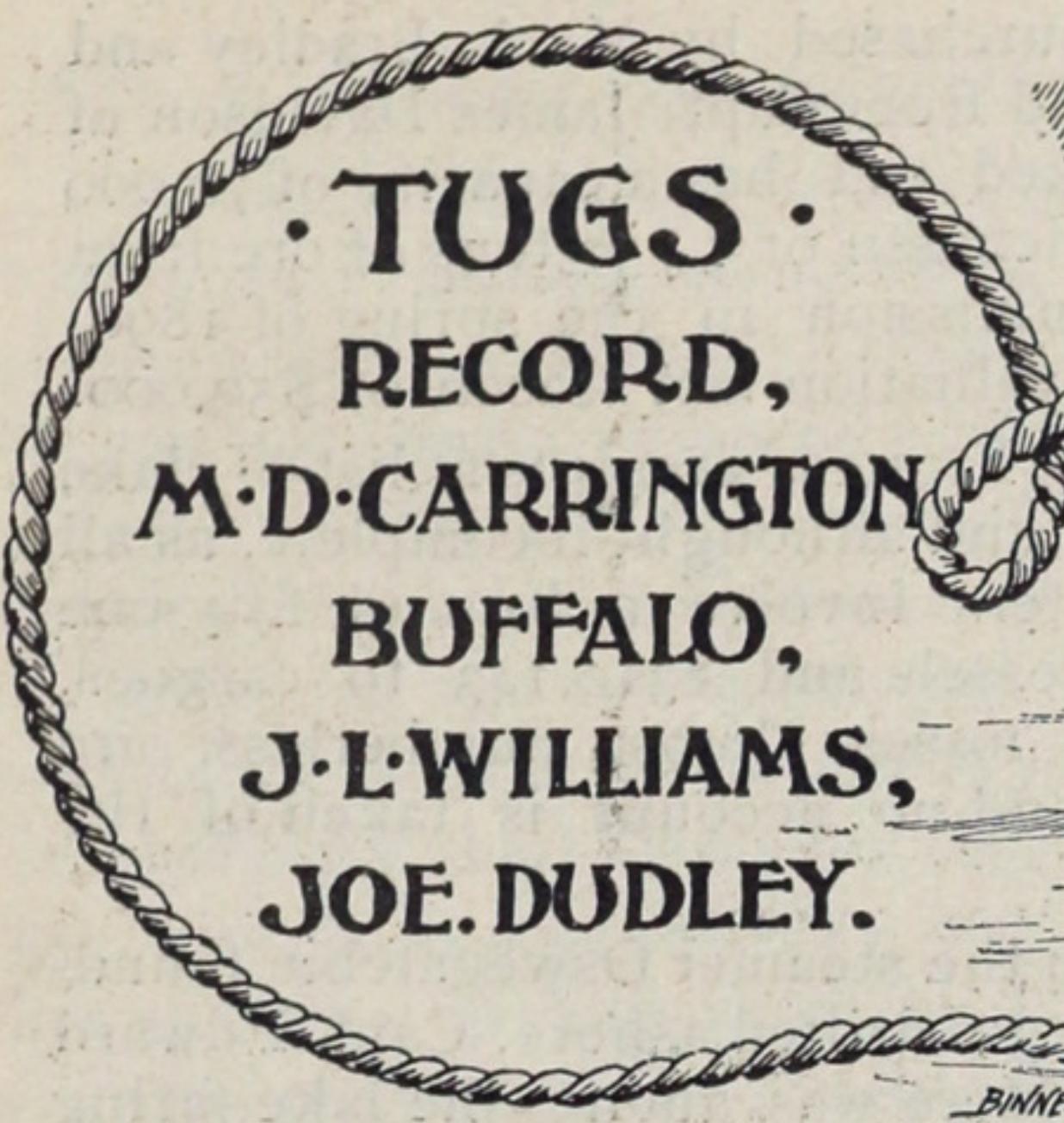
	Chicago	Duluth
In store, bu.....	12,405,695	6,497,605
Afloat, bu.....	238,378	400,703
Increase over last week, bu.....	514,613	827,976

Cleveland Matters.

The Globe Iron Works Company will remove the twenty arc light plant installed in its machinery department by the Ball company, a contract having been let for an electric lighting system to the Fisher Electric Company of Detroit. The machine shop, foundry, boiler shop and other departments will be divided into eight circuits, controlled by the standard mechanism manufactured by the Fisher company. In the office and machine shop 250 incandescent lamps will be installed and thirty-four arc lamps through the other departments. A 600-light automatic dynamo will furnish the necessary current and will be driven by a 9x16 automatic Rice engine, manufactured by the John T. Noye Manufacturing Company of Buffalo. The engine, dynamo and switchboard will be on the gallery of the third floor and will be under the direct control of the operator in charge of the overhead crane system.

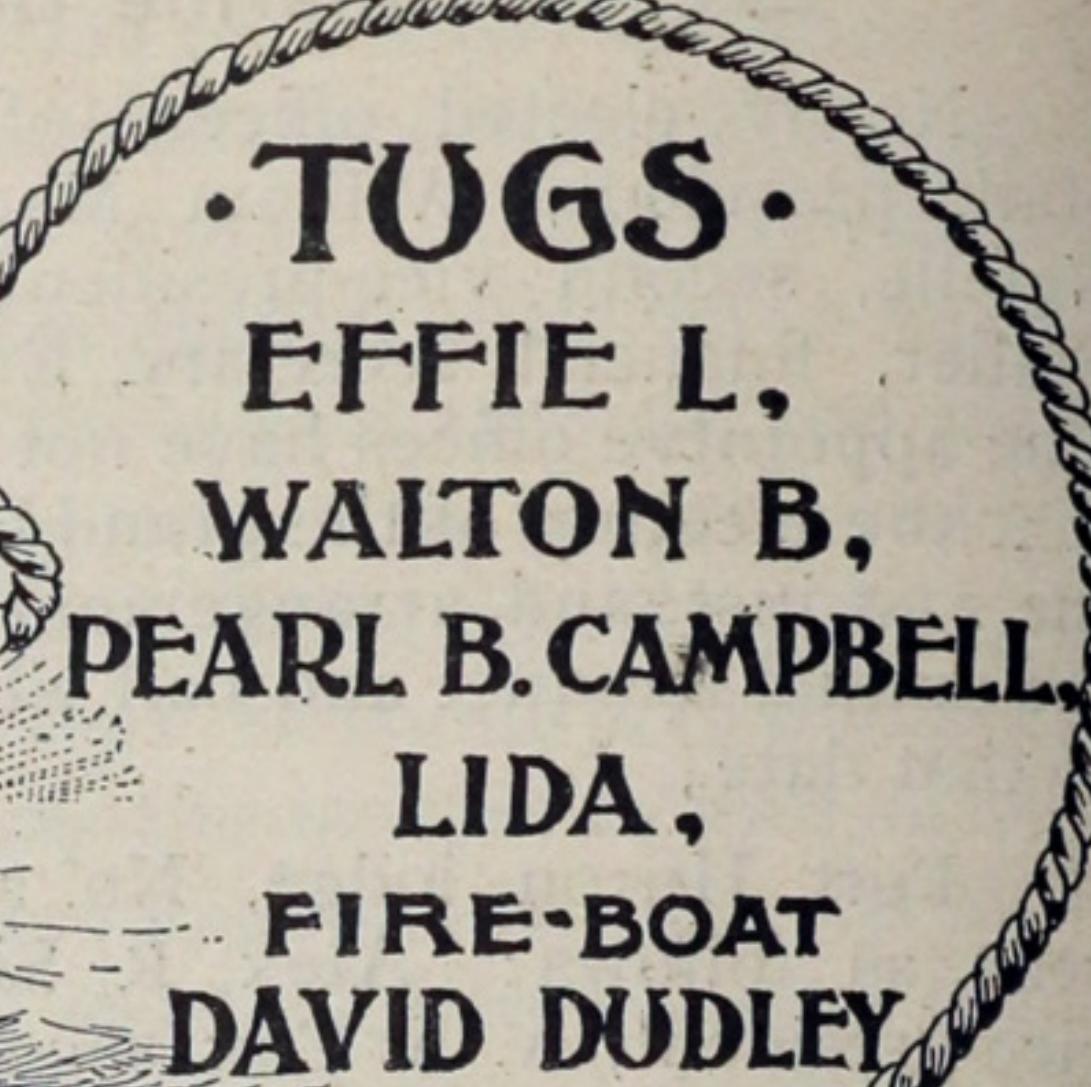
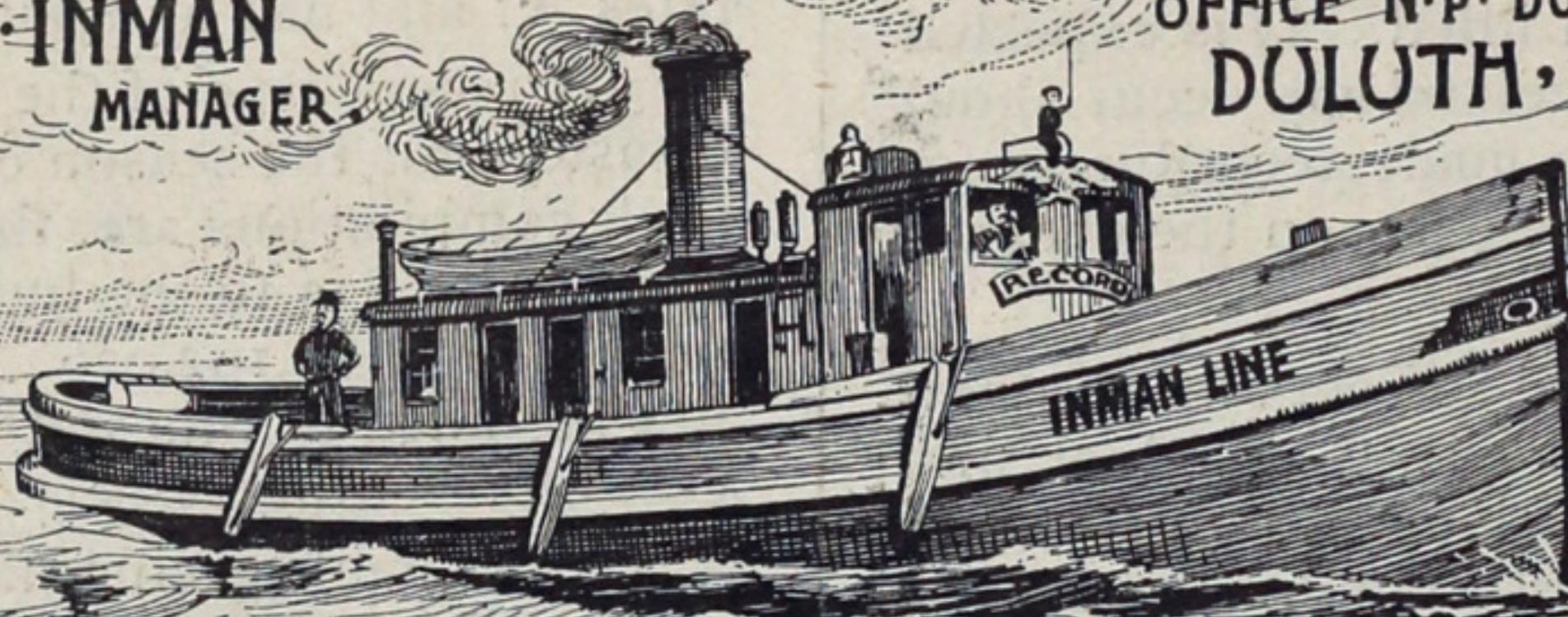
On June 4 last on Lake Erie, just east of the "dummy," the schooner Fayette Brown was sunk by the Northern Steamship Company's steamer North Wind. It was thought that it would be necessary to go into court for a settlement of damages but the owners of the steamer a few days ago agreed to pay \$25,500 for the loss of the Brown and her cargo of block stone. The Brown was owned by the Bradley estate of Cleveland.

Hawgood & Canfield, new firm of vessel and insurance agents announce in a neat circular letter a beginning of business with the new year.



INMAN LINE

OFFICE N.P. DOCK
DULUTH, MINN.



STEAM PUMPS, HAWSERS, LIGHTERS AND DIVING SUITS FURNISHED ON SHORT NOTICE.

VESSEL AND MACHINERY EXCHANGE.

Space under this heading may be used gratis by our advertisers or subscribers to call attention to vessels or any craft, machinery, new or second hand, that they may have for sale. Those wanting machinery of any kind, or wishing to purchase vessels, are invited to take advantage of the same offer. Each item will be limited to three lines. Letters concerning same must mention number attached to item and be addressed MARINE REVIEW, 510 Perry-Payne Building, Cleveland, O.

83—FOR SALE—One compound marine engine cylinders 16 and 32x26 inches stroke.

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88—FOR SALE—Steam barge, A2 rating, and of 18,000 bushels grain, or 375,000 feet of lumber capacity. Will sell half or entire boat;

89—FOR SALE—Cheap, two 18x20 marine engines complete with outboard shafts, wheels, driving bearings, stern bearings, steam pipes and oil cups, all in good condition.

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92—FOR SALE, CHEAP—Small ferry steamer.

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94—One-half interest of the barge Montgomery for sale at a sacrifice. Must be sold within ten days.

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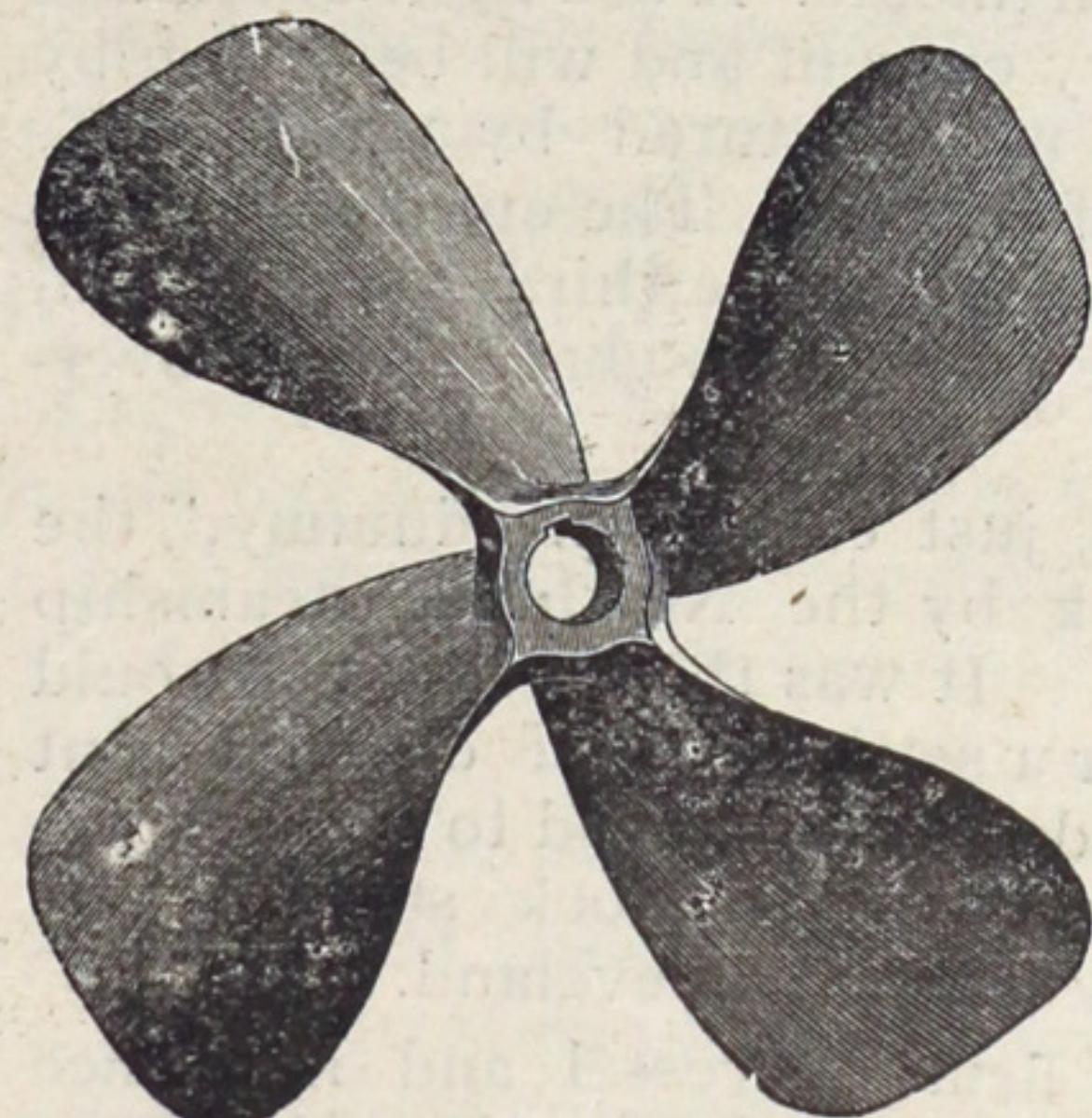
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Convenient to fill.
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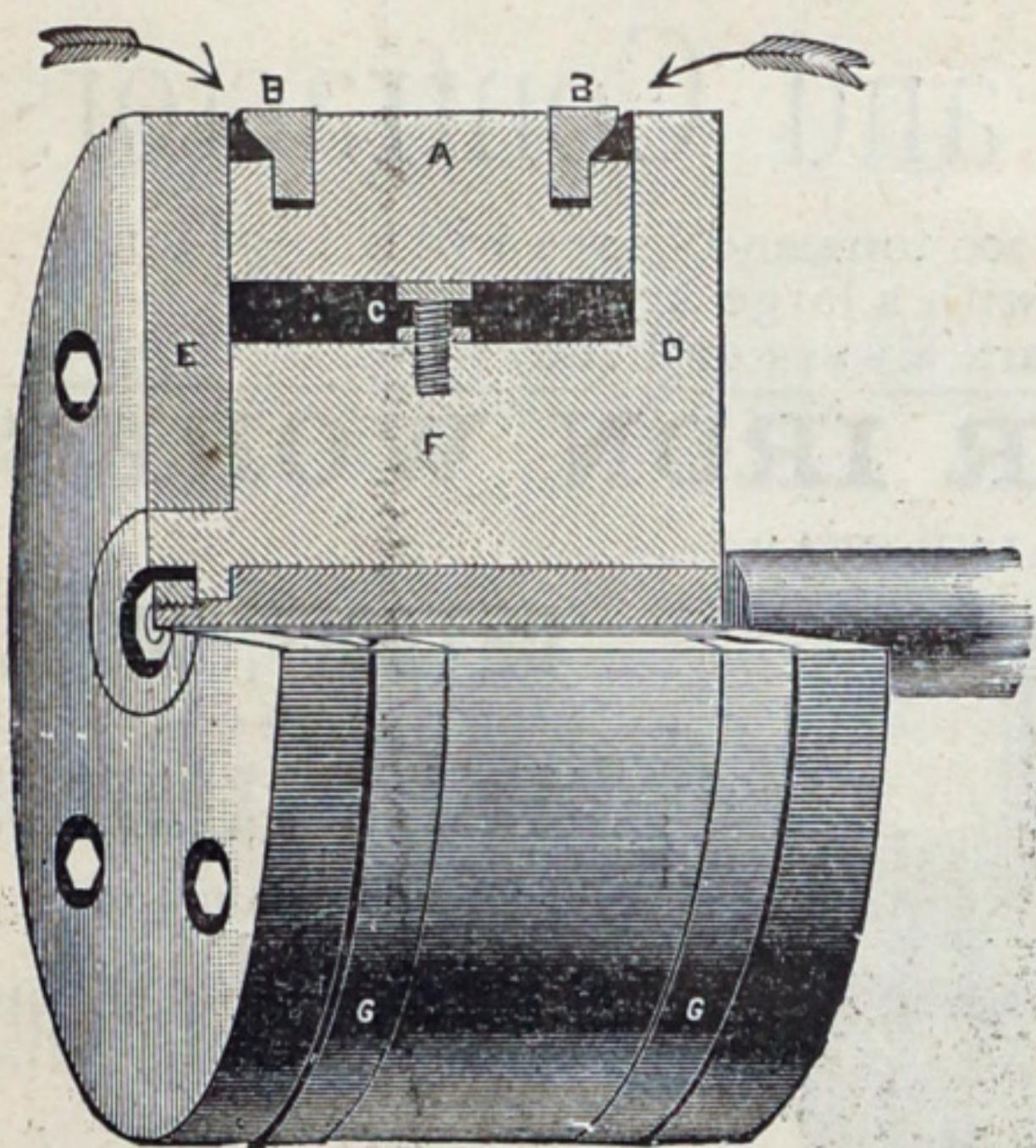
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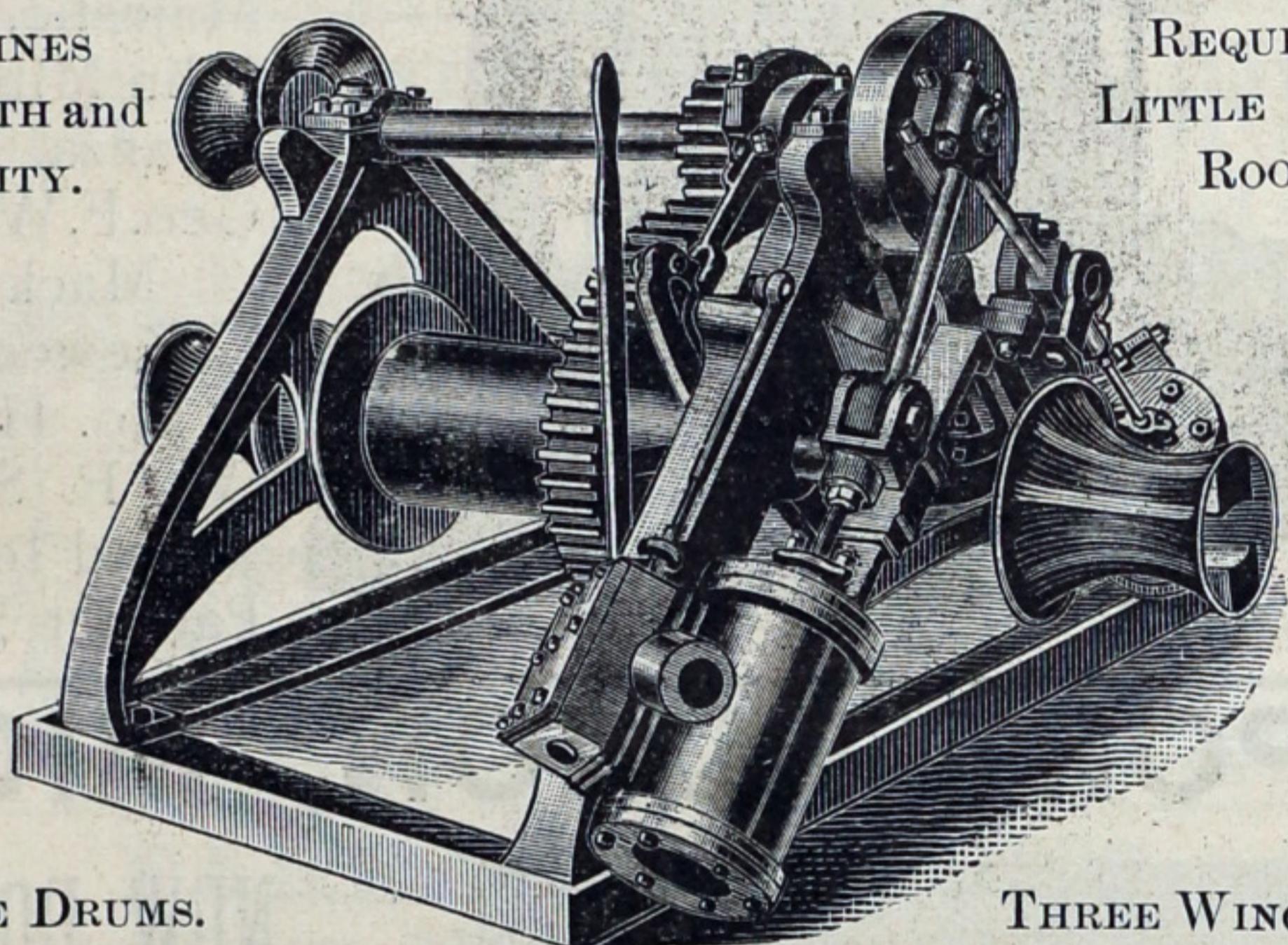
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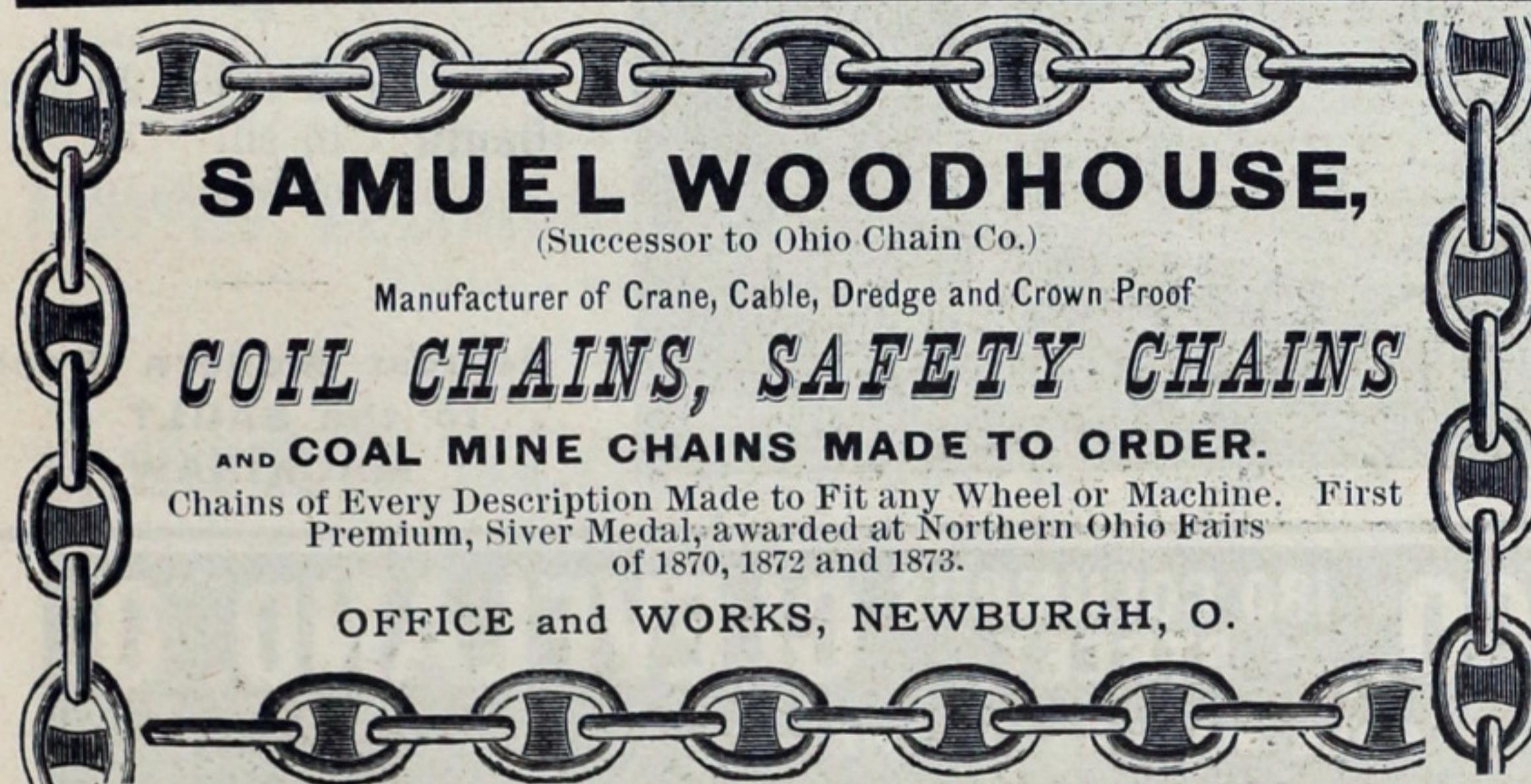
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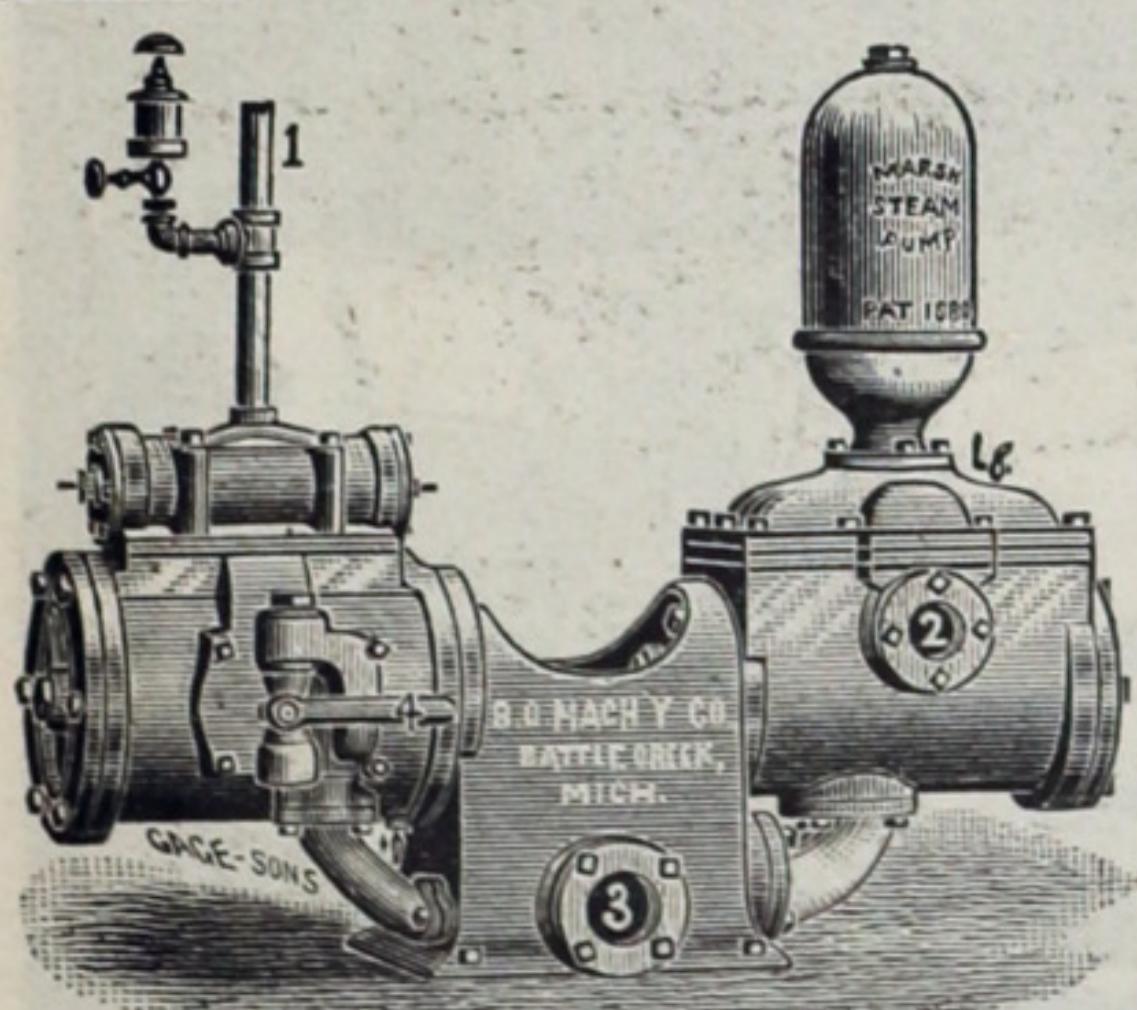
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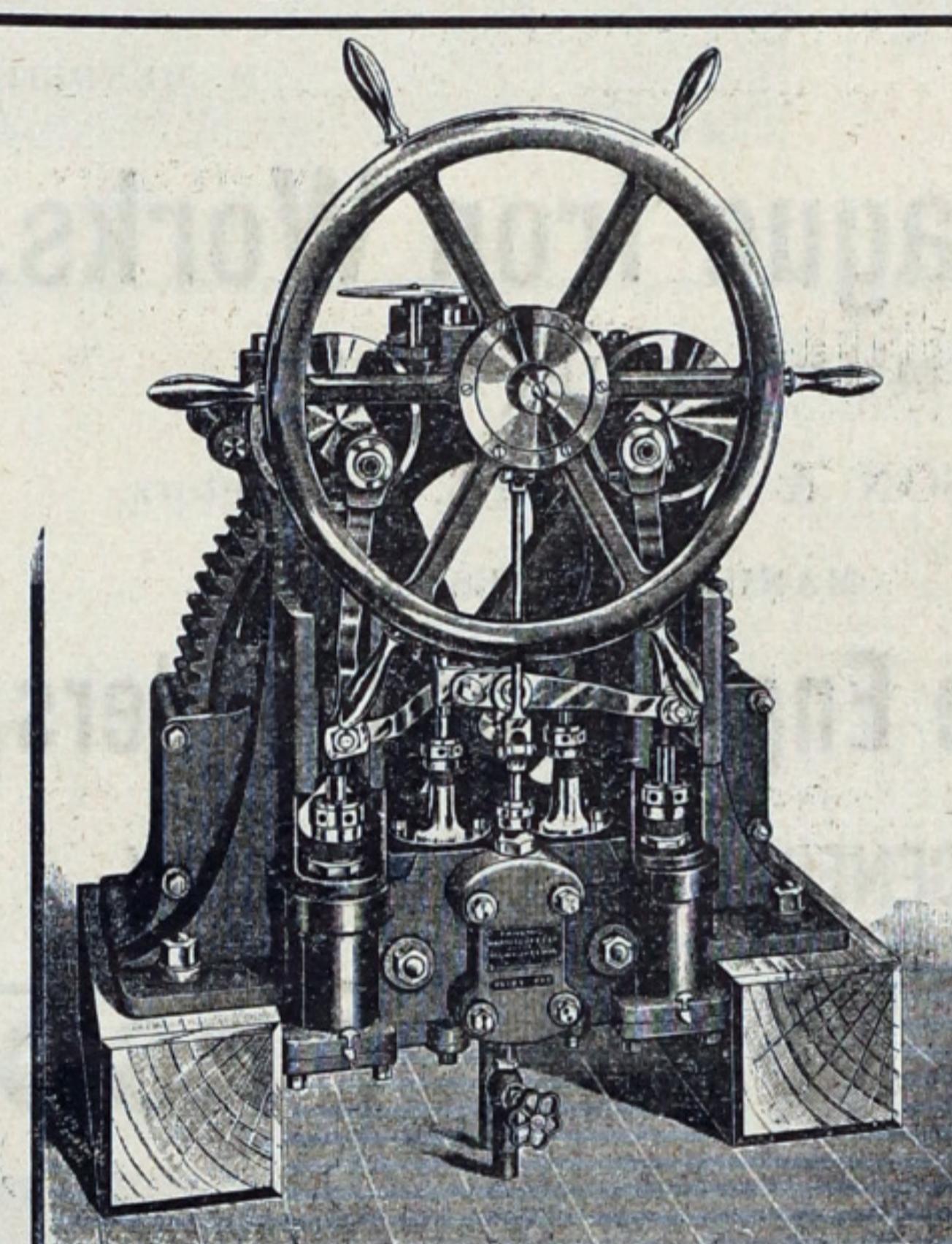
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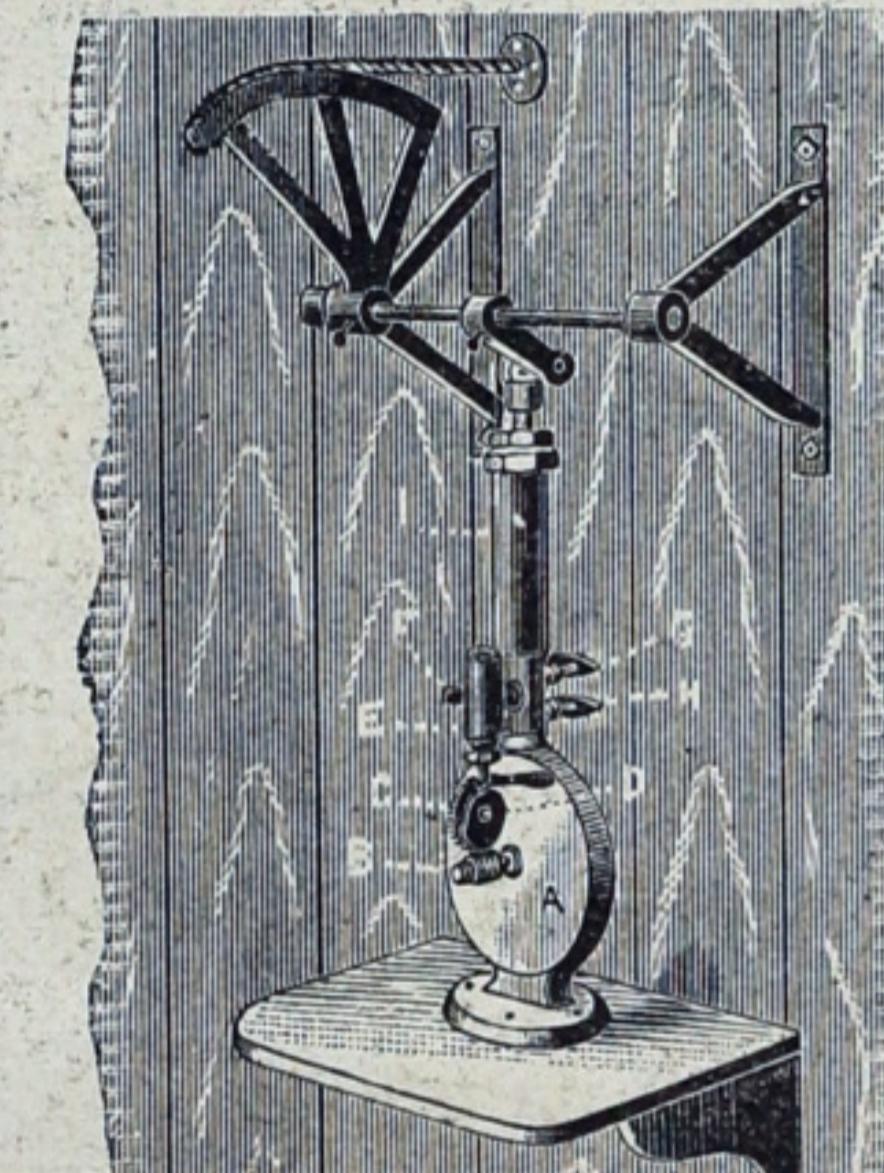
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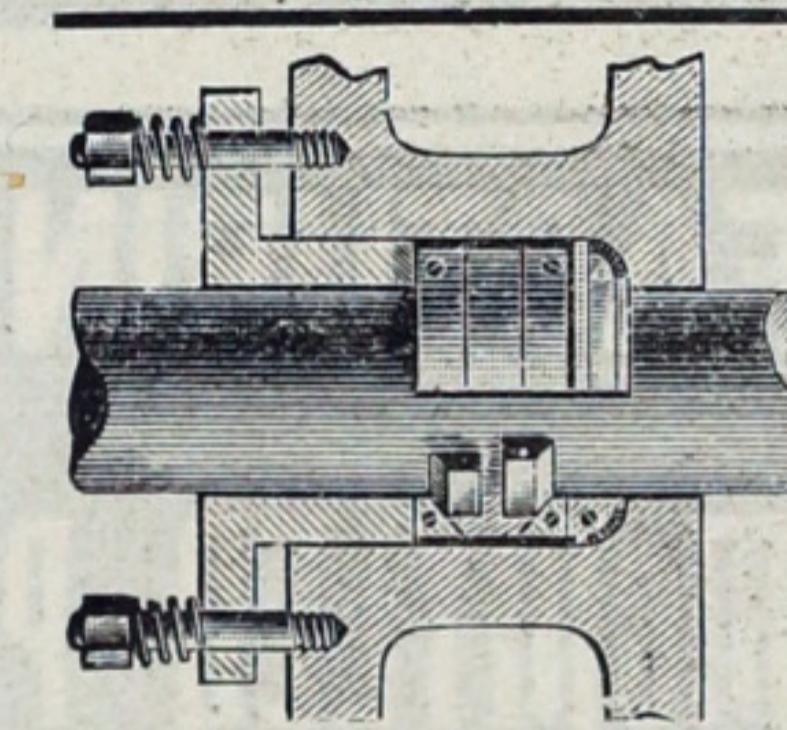
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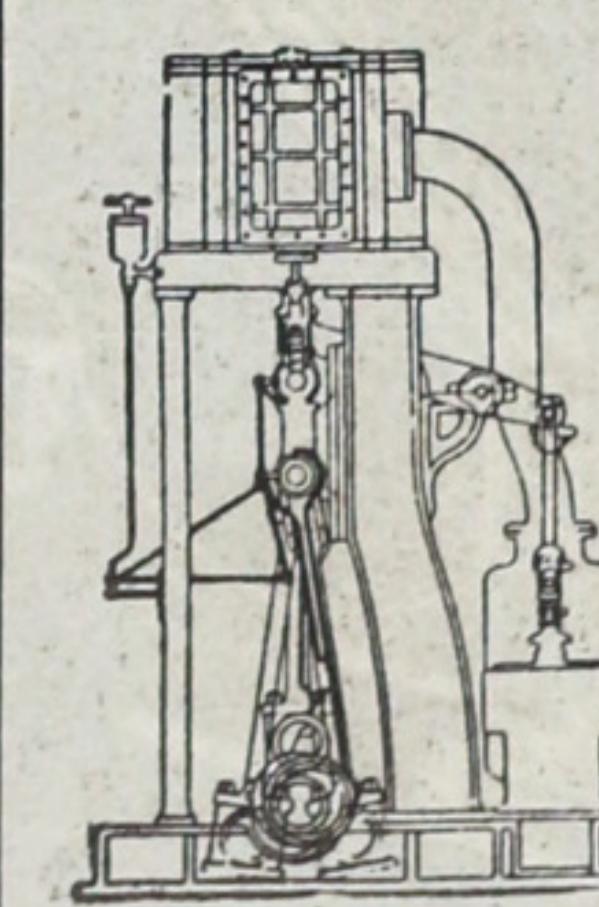
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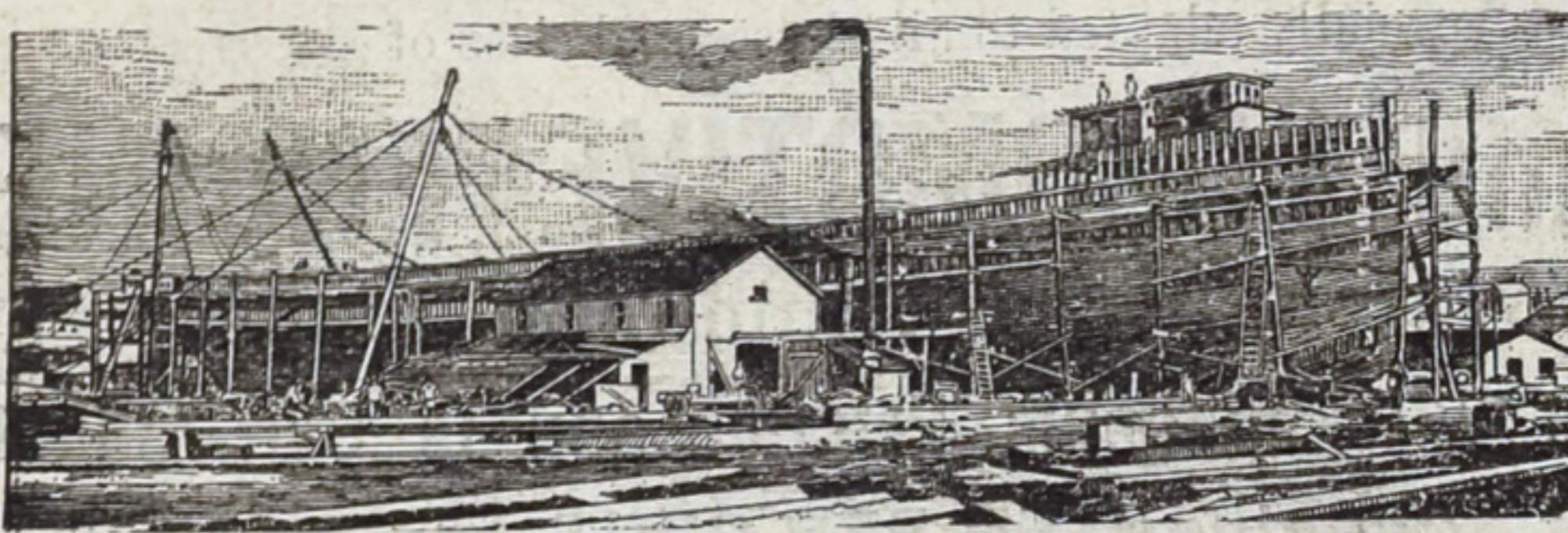
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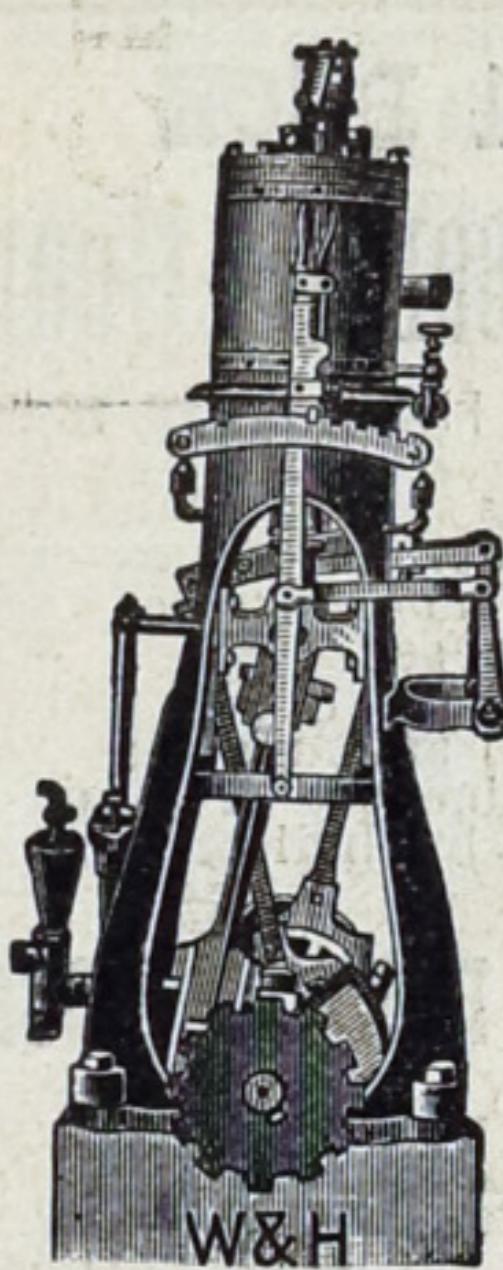
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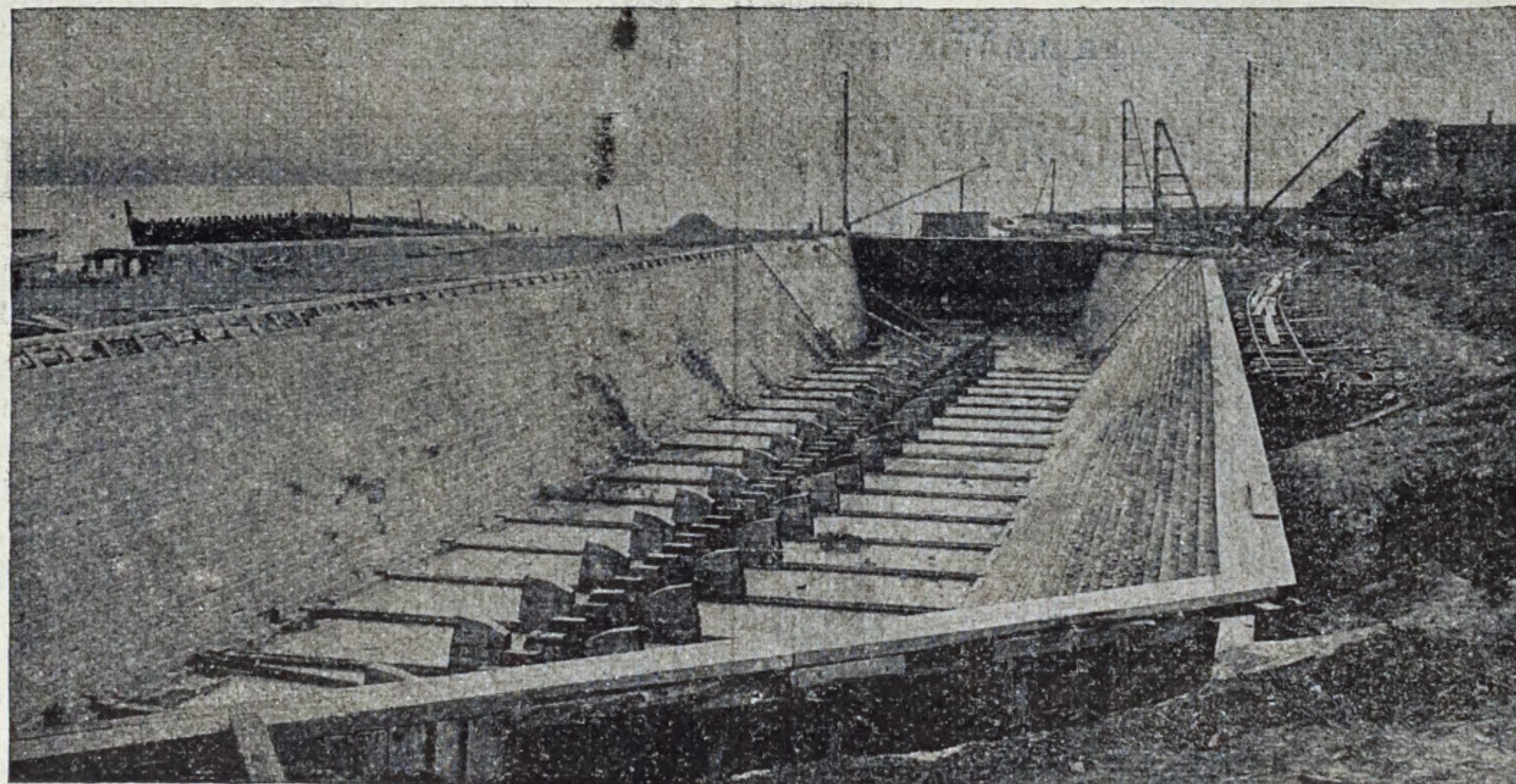
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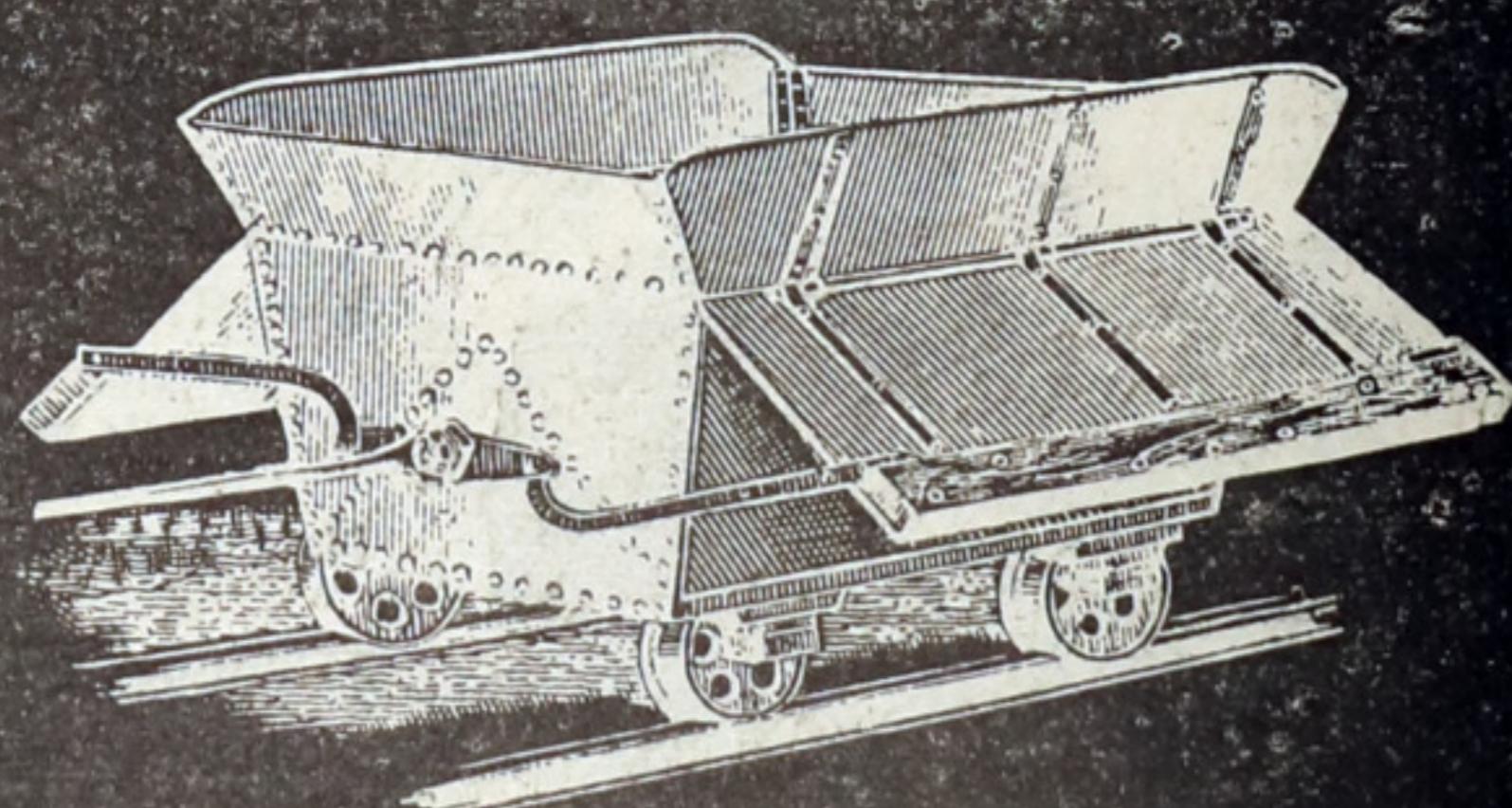
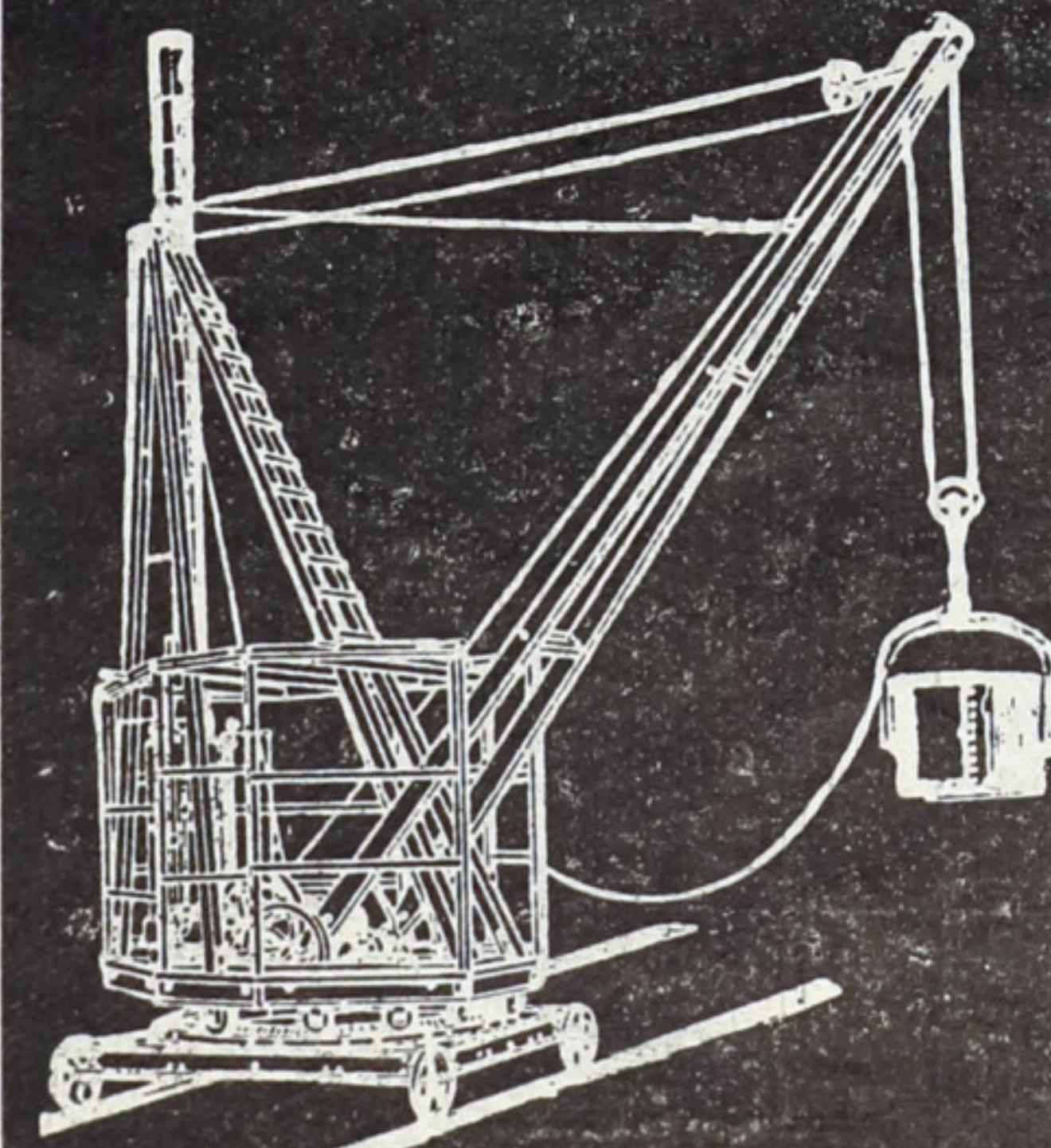
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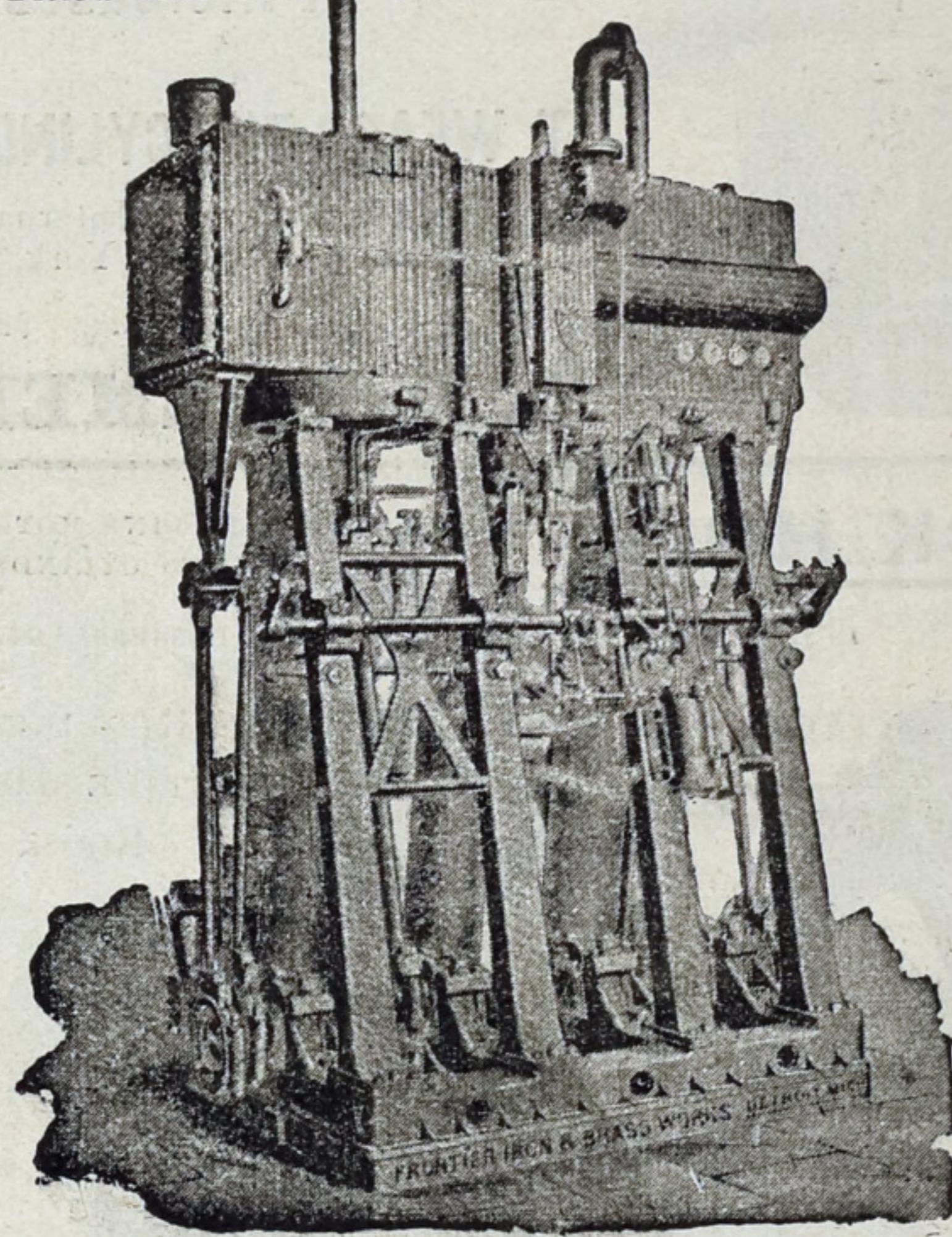
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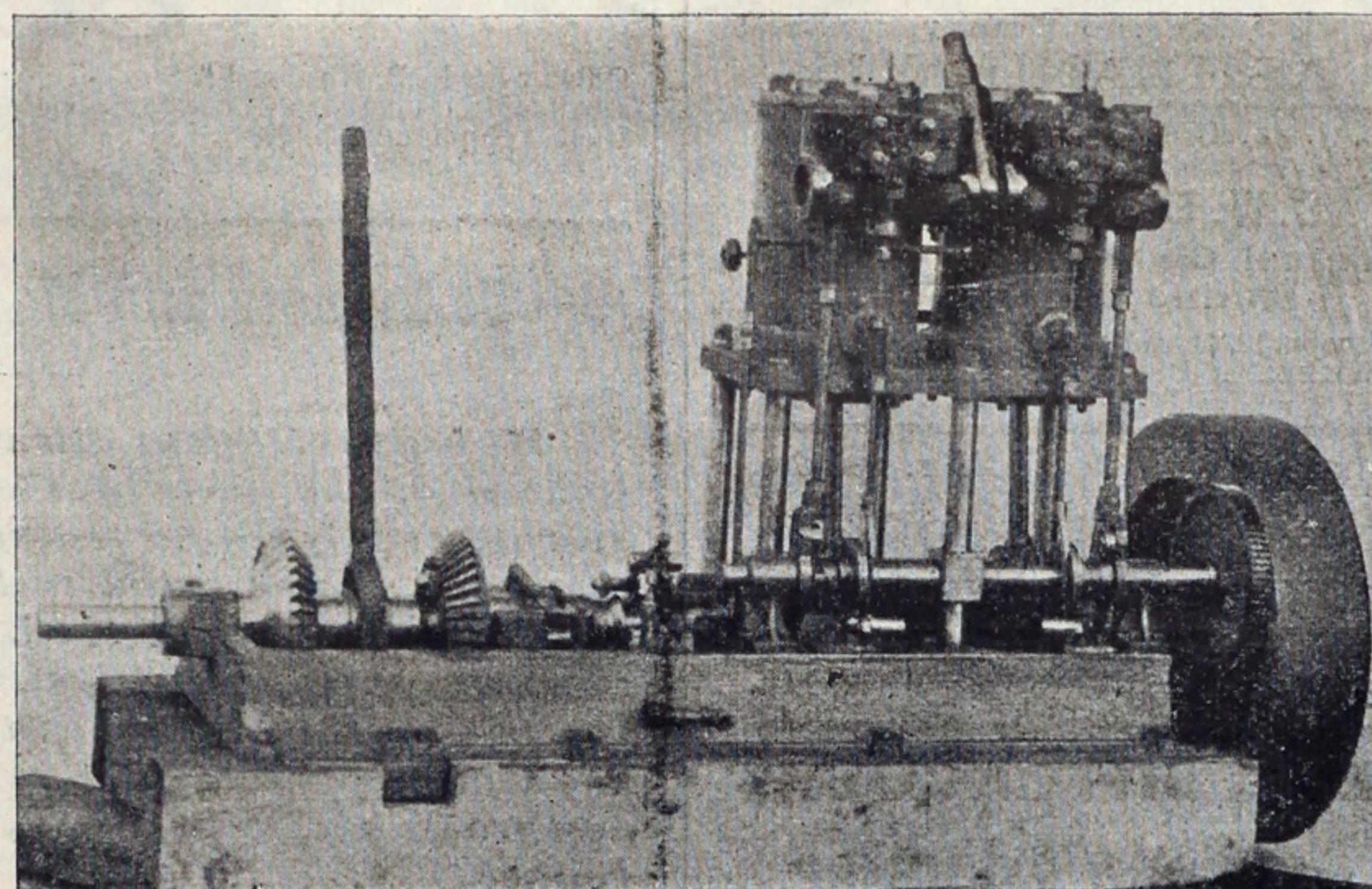
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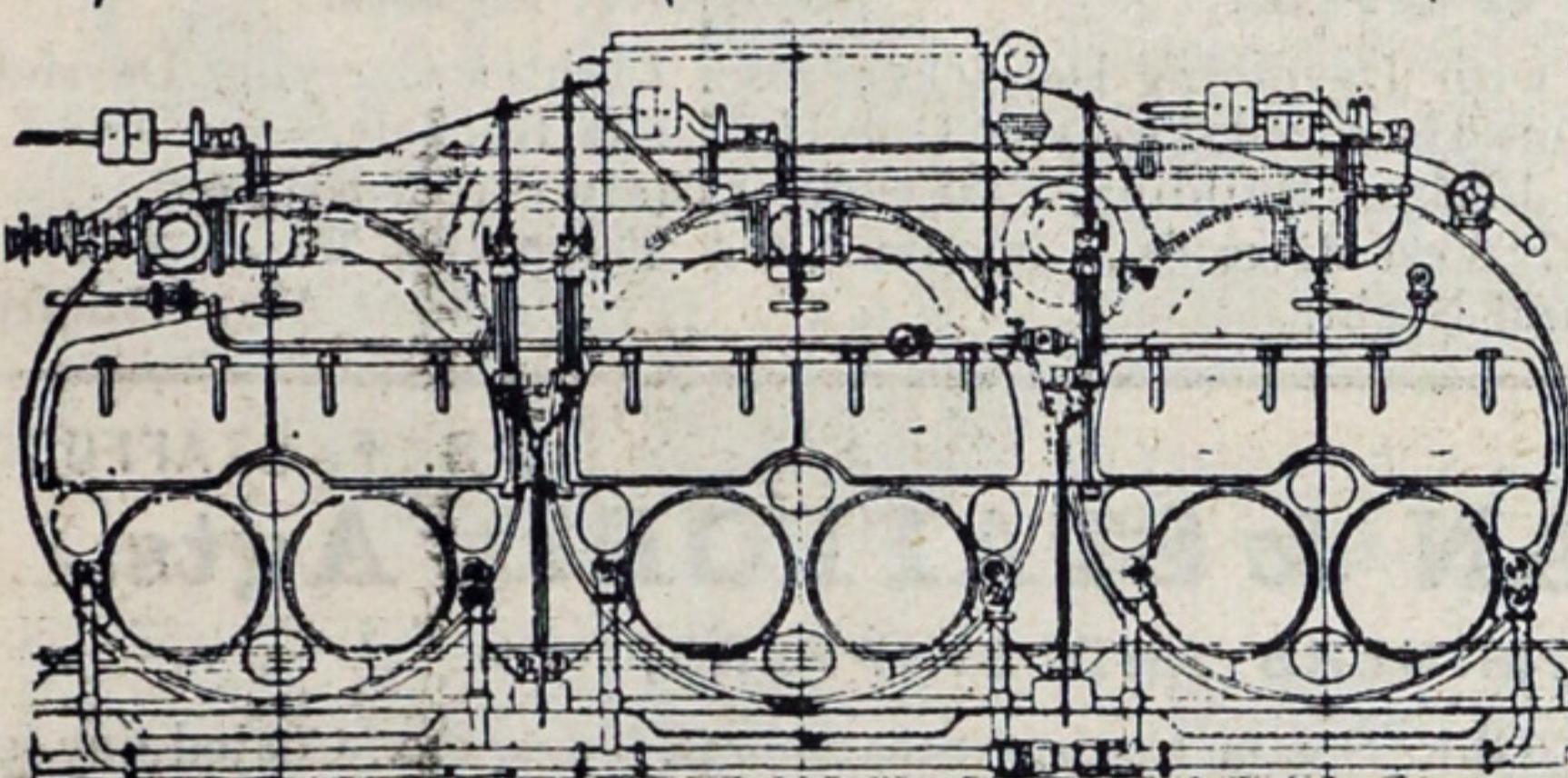
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				FLOOR SPACE	Stationary
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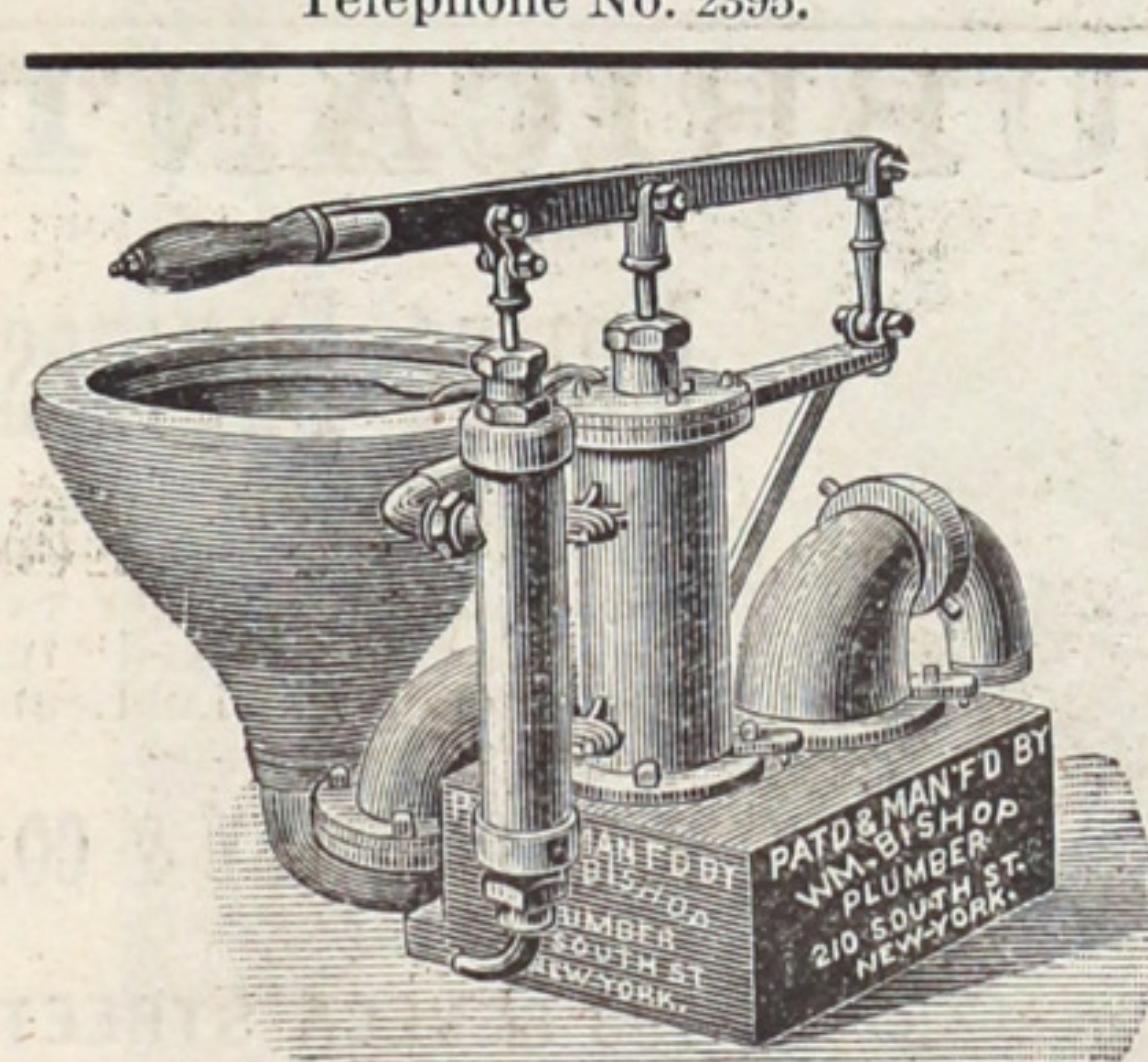
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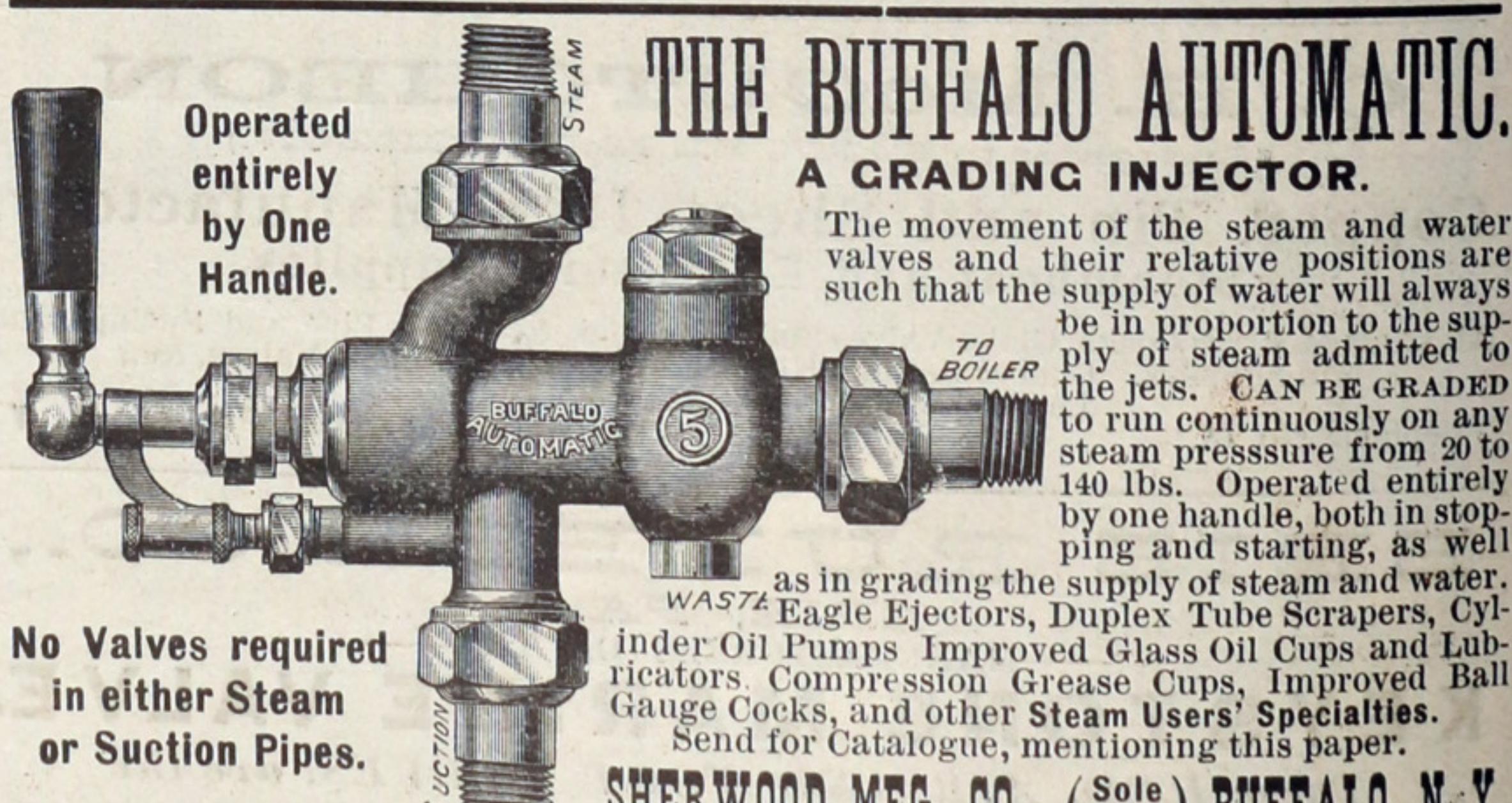
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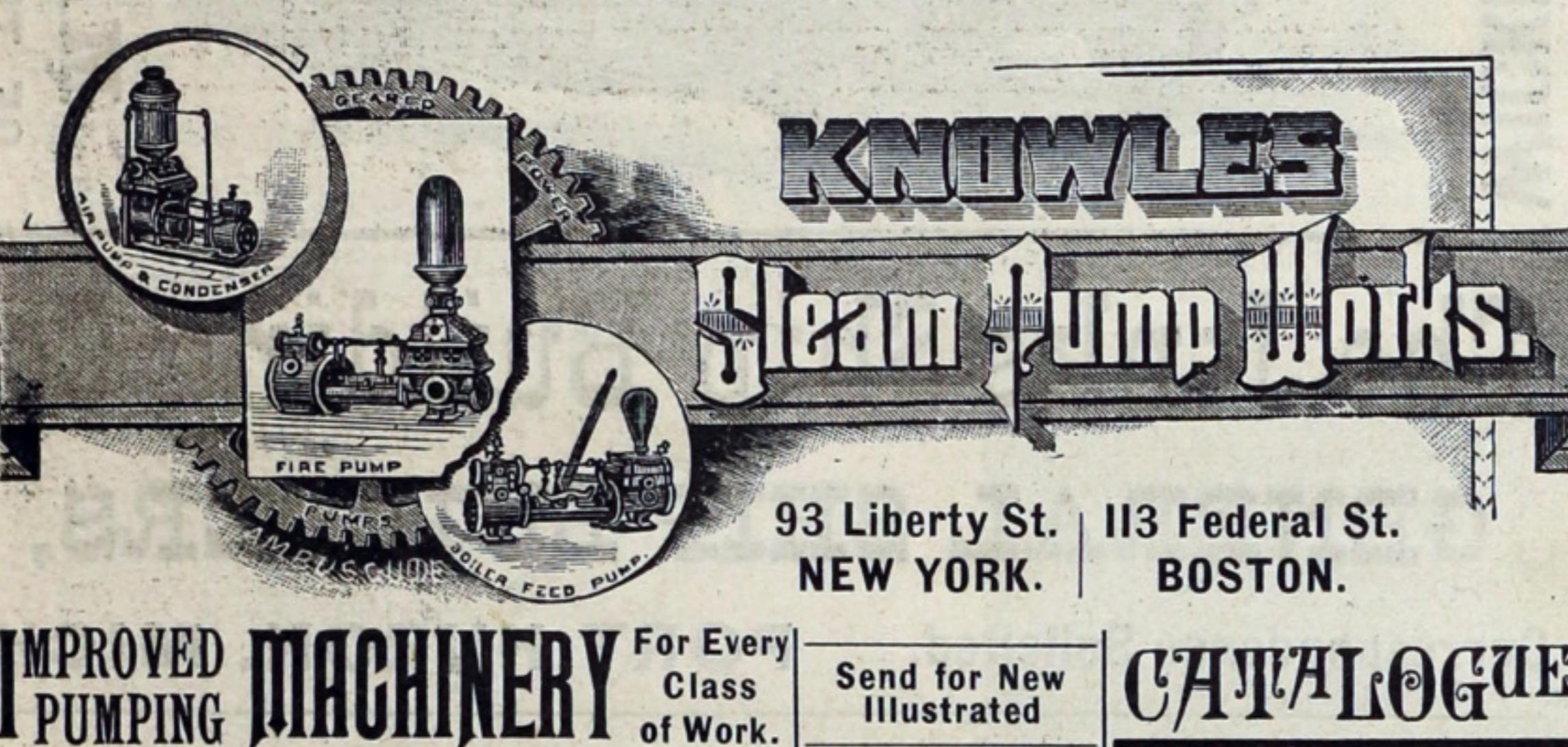
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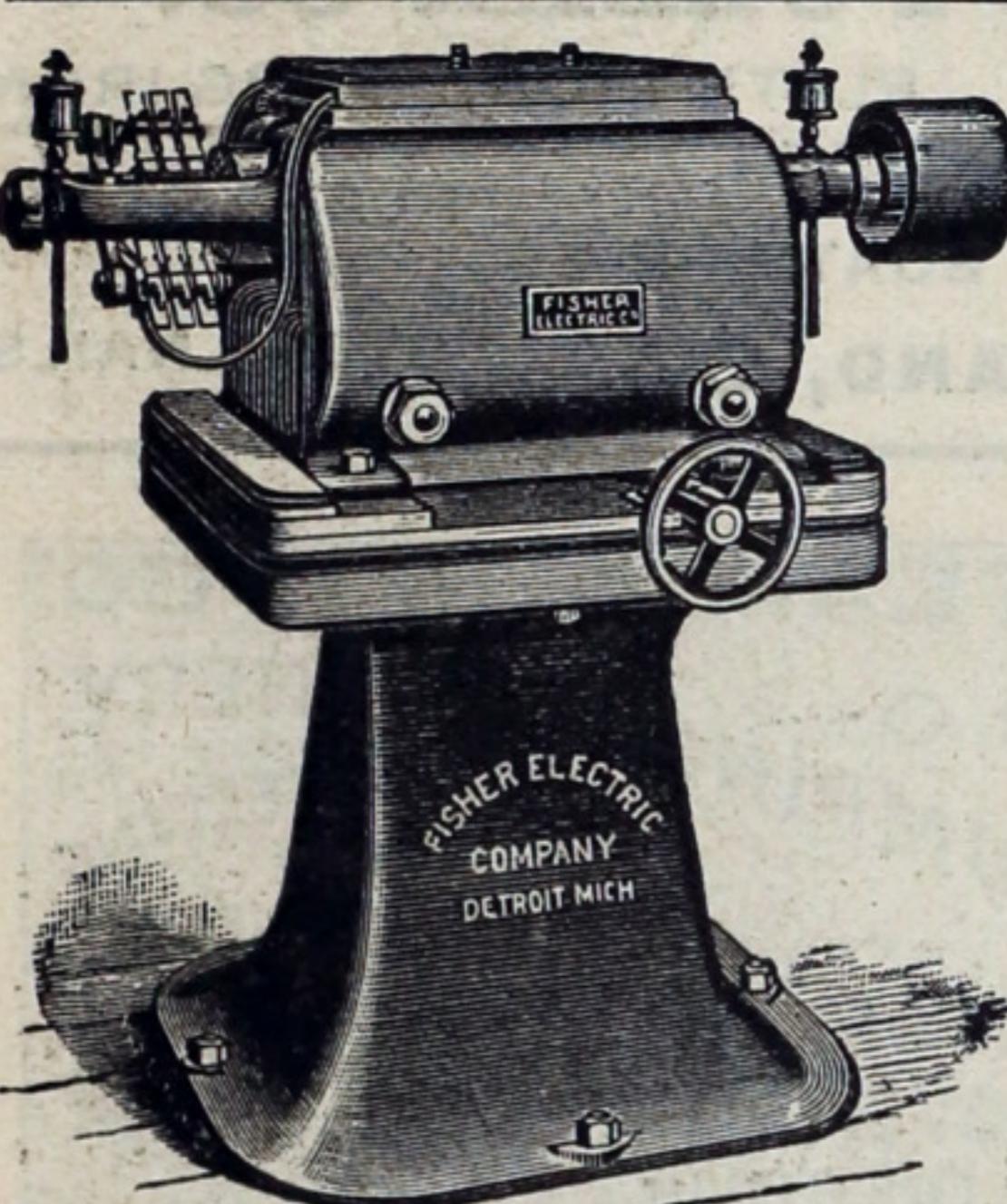
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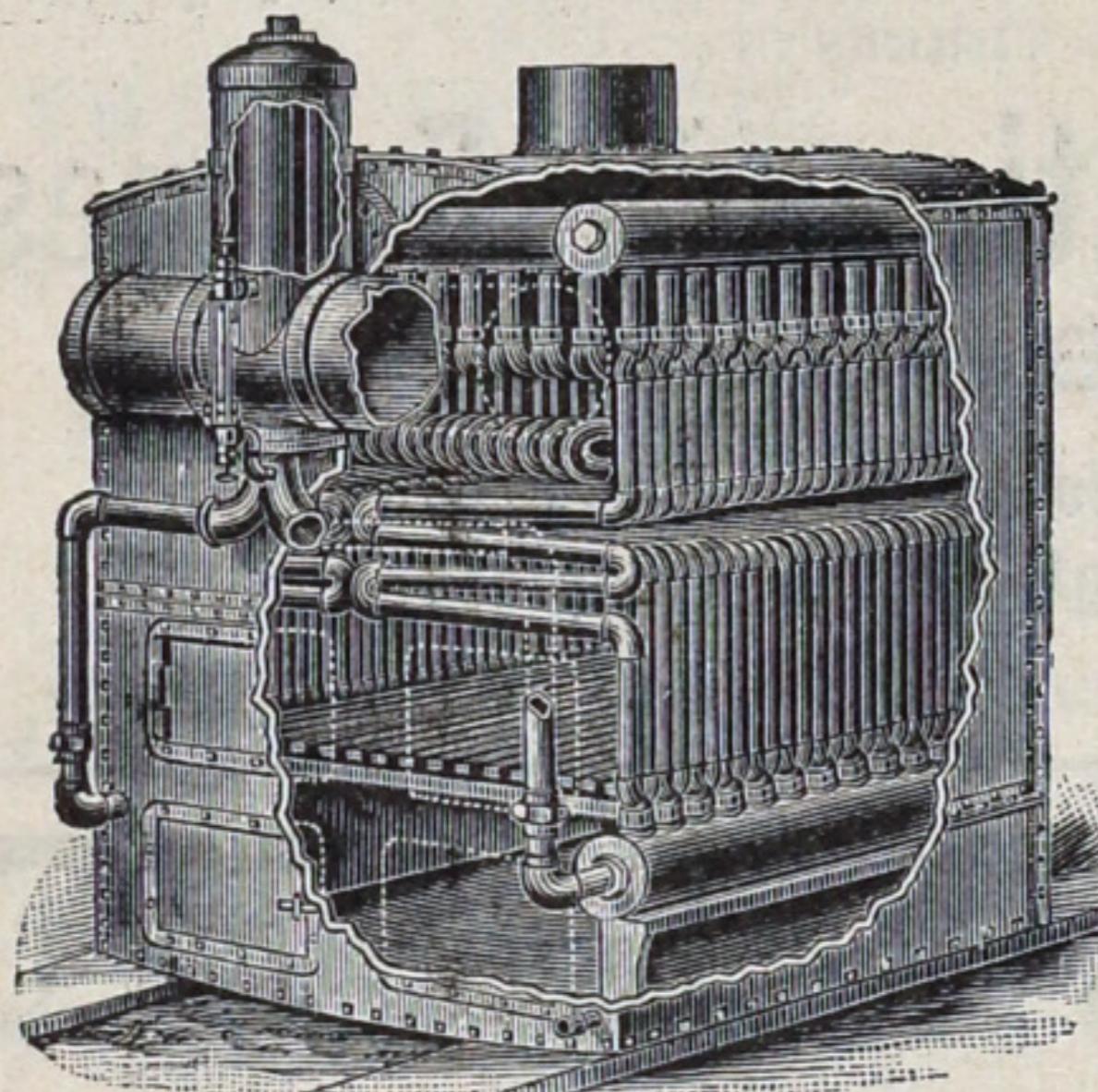
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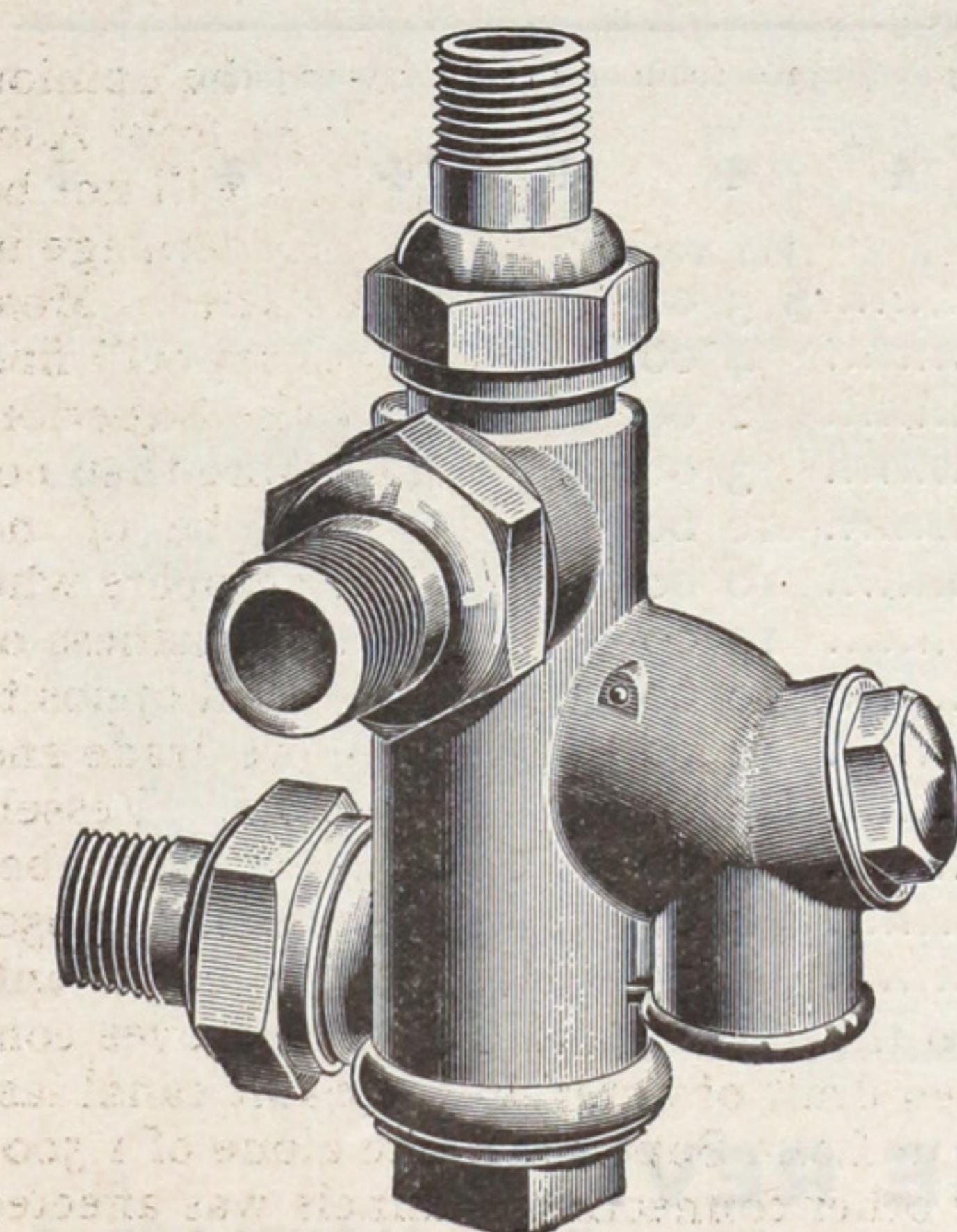
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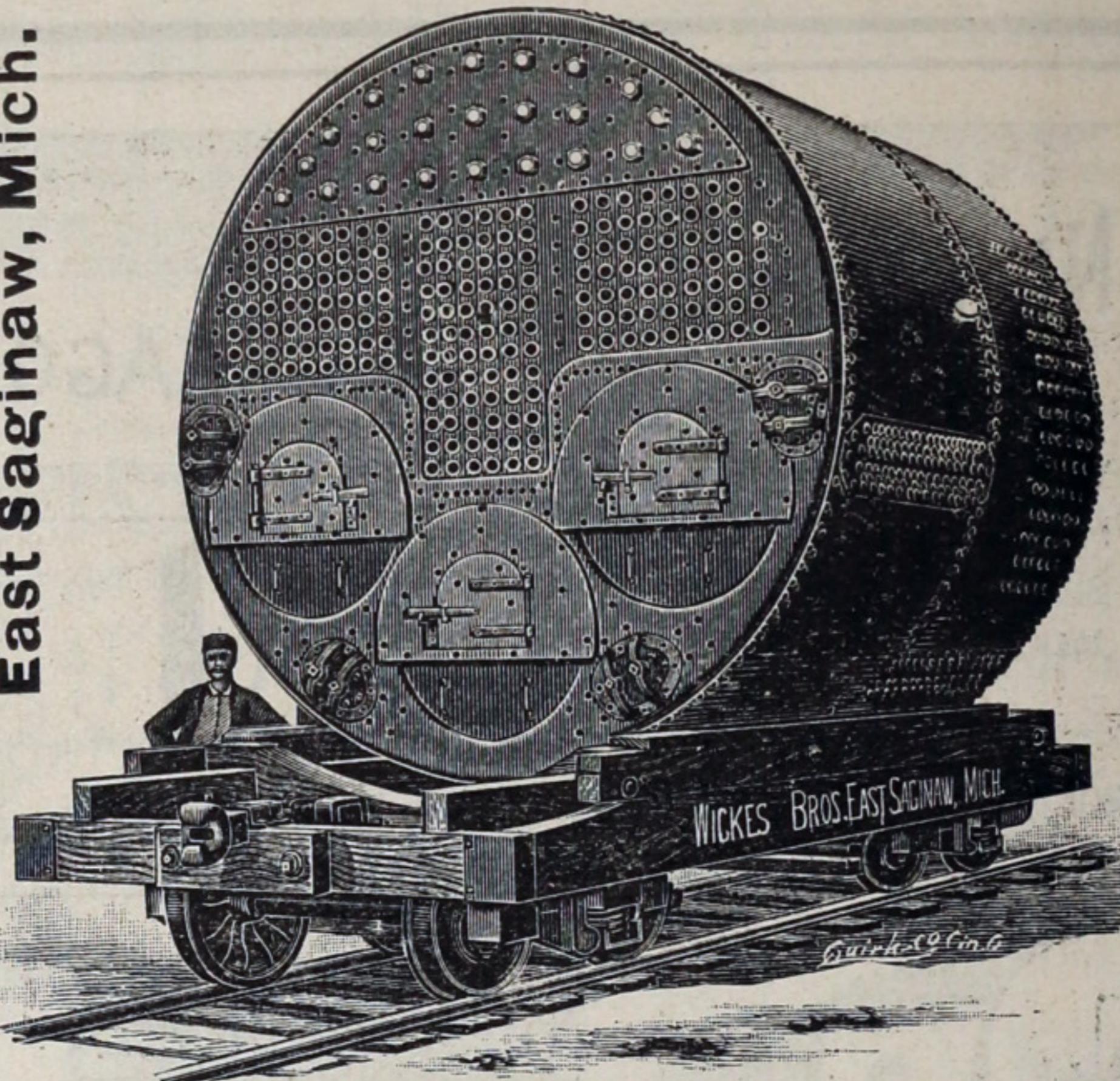
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